TECHNOLOGY DEPARTMENT

TEXTILE WORLD

A McGraw-Hill Publication

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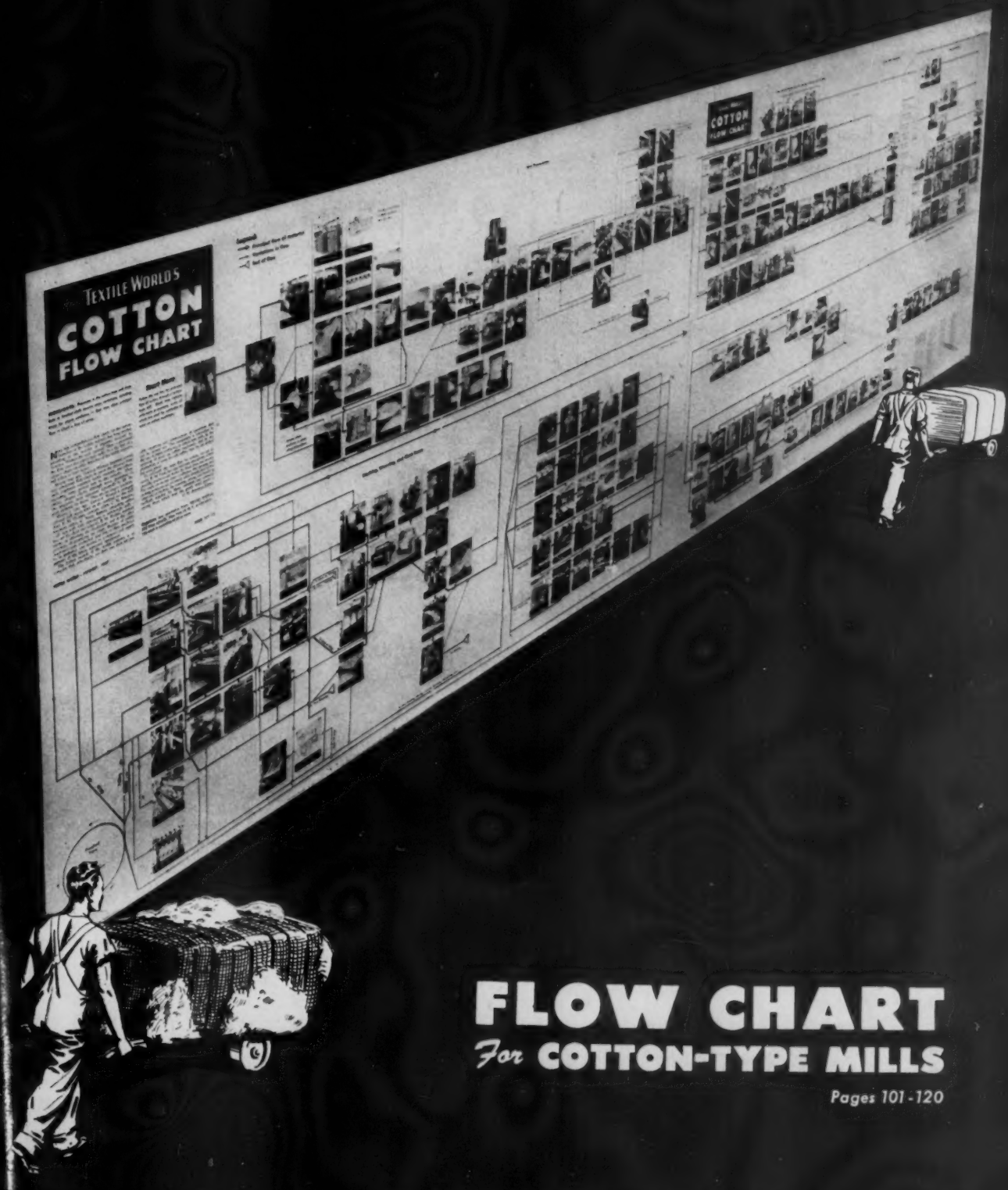

FLOW CHART
For **COTTON-TYPE MILLS**

Pages 101-120

Commercial FACTORING

More and more, the word "COMMERCIAL" is recognized as the "distinguishing mark" in factoring. It is the symbol of long experience, complete facilities and resources, and a knowledge of every branch of the textile industry.

We will gladly explain in detail what *COMMERCIAL FACTORING* can mean to your business in new opportunities and increased profits.

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EUGENE G LYNCH, 80 FEDERAL STREET, BOSTON, MASS.
T. HOLT HAYWOOD, WINSTON-SALEM, NORTH CAROLINA

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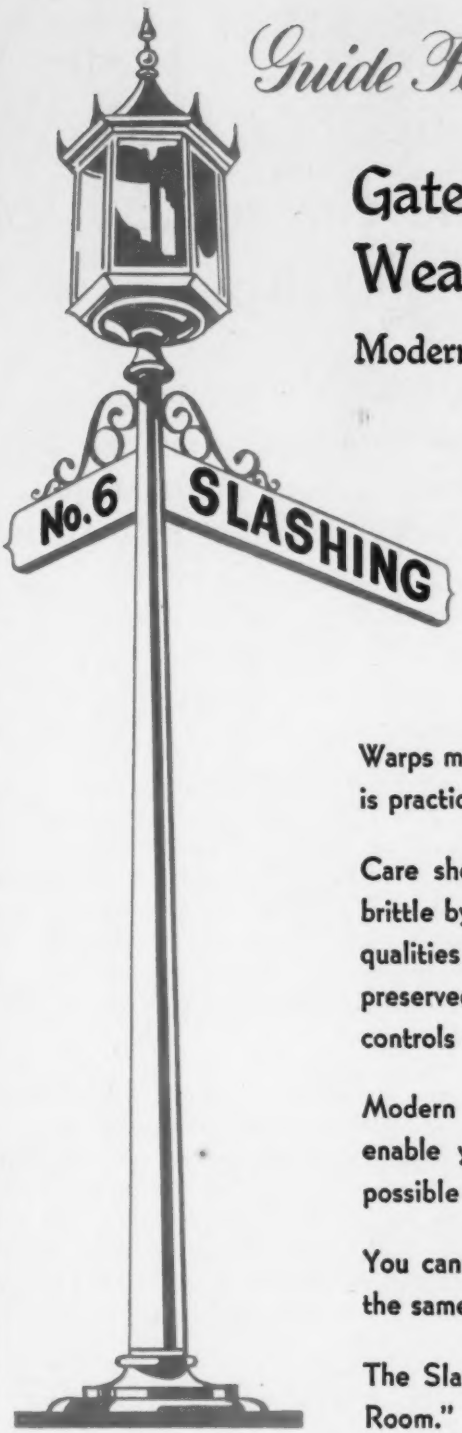
Guide Posts to Increased Production



Gateway to the Weave Room

Modern Slashing enables you to

Reduce loom stops
Control quality
Maintain standards

Every Overseer of Weaving knows that efficiency in the Weave Room is to a considerable extent controlled by the quality of the work performed in the Slashing Room. Good warps reduce loom stops.

Warps must be as free from imperfections and crossed threads as is practical under normal running conditions.

Care should be taken to make sure that the yarn is not made brittle by undue stretch or tension in the Slasher and its weaving qualities impaired. The elasticity and life of the yarn must be preserved. The best of yarn can be seriously weakened by poor controls at the Slasher.

Modern Slashers and Sizing equipment with automatic controls enable you to turn out good warps consistently. They make possible accurate and continuous control of every operation.

You can maintain your own particular standards of quality and at the same time increase production.

The Slasher Room has been called the "Gateway to the Weave Room." You can make it a Gateway to Increased Production.

Sixth in a Series

Of What Well-Managed Mills Are Doing to Get the Best Results in Weaving

DRAPER CORPORATION
HOPEDALE MASSACHUSETTS

Why you can't buy all the Caustic Soda, Soda Ash, Sodium Bicarbonate and Chlorine you want... and what to expect for 1947 and 1948.

Much has been written about the need for more Caustic Soda, Soda Ash, Sodium Bicarbonate and Liquid Chlorine but, to date, little has been done to explain the reasons for the shortage of these products. In the following Question-Answer columns, Mathieson endeavors to tell American industrialists just why they can't get all they want of these vital chemicals . . . and what the 1947-1948 outlook is for alkali and chlorine production.

Q. *Why are caustic soda, soda ash, sodium bicarbonate and chlorine now in short supply when there was an ample supply before the war?*

A. Expansion of the alkali-chlorine industry during the war *was not permitted* (except to produce an insignificant tonnage) because of the critical shortage of materials that would have been needed for this construction. However, during the same war period, alkali-consuming industries, such as aluminum, rayon, textiles, chemicals and glass food-containers, and chlorine-consuming industries, such as DDT, synthetic detergents and plastics, were allowed to expand their production or construct new facilities. These will continue as growing peace-time consumers.

Q. *Was there less alkali for consumers in 1946 than in 1945?*

A. During 1946 there was less tonnage available than in 1945 due to interruptions in production caused by coal and other strikes. If these interruptions do not recur, there should be some increase in alkali tonnage supply for 1947, but certainly not enough to meet the increased demand.

Q. *How much alkali and chlorine are being exported?*

A. Practically no chlorine. Only a negligible fraction of the pre-war tonnage of caustic soda, soda ash and sodium bicarbonate is now being shipped out of this country.

Q. *Is there any idle capacity in the alkali and chlorine industry?*

A. Only four small government-owned caustic-chlorine plants. Two of these plants have finally been leased to private industry and will be placed in operation in early '47. This additional tonnage is only a "drop in the bucket" when measured in terms of the overall shortage.

Q. *Are alkali and chlorine producers expanding their facilities?*

A. Yes, several producers, including Mathieson, are expanding facilities for one or more products. Some of this expansion was started immediately following VJ Day. But the special heavy equipment necessary (boilers, kilns and turbines) is as high on the industry shortage list as are alkali and chlorine . . . result: expansion cannot possibly be completed until late '47 or early '48.

THE MATHIESON ALKALI WORKS (INC.)
60 East 42nd Street, New York 17, N. Y.

Mathieson
CHEMICALS

Caustic Soda • Soda Ash • Bicarbonate of Soda • Liquid Chlorine
Chlorine Dioxide • Ammonia, Anhydrous & Aqua • HTH Products
Fused Alkali Products • Synthetic Salt Cake • Dry Ice • Carbonic Gas
Sodium Chlorite Products • Sodium Methylate

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Classified According to Reader Interest

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TEXTILE WORLD

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THE *Long-Range* VIEW

Are You Underestimating Materials Handling?

Over half the persons in the textile industry believe that less than 20% of the total time spent by employees is for handling and transferring materials. This belief was indicated by replies to inquiries made by TEXTILE WORLD. Over two-thirds of the persons who expressed opinions thought that the total cost was under 20%. Yet, actual measurement in a group of mills has shown that handling materials consumes over 60% of employees' time and accounts for over 60% of the payroll.

Inquiries were made to ascertain whether or not operating executives in textile mills know how much time employees are consuming and how much money is being expended just to handle and transfer materials and stock from one place to another. The inquiries did not constitute a scientific survey, but they did reveal that (1) most persons think the cost low, although (2) they do not have precise figures.

A tabulation of opinions that were expressed in regard to time and cost of materials handling follows:

Materials handling as percent of total time and cost	Time consumed—percent of replies	Labor cost—Percent of replies
Less than 20%	56	69
20%	26	15
40%	6	5
60%	0	0
Over 60%	3	2
Don't know	9	9

Bear in mind that the replies were virtually all opinions and were not supposed to be based on actual measurements. However, a reply from one of the mills that actually measured time and cost expended is included in the "over 60%" line of the foregoing summary.

There is a suprising difference between the average estimates of mill men and the result of the actual measuring in the one instance mentioned. There are at least two obvious reasons for this difference: (1) Most persons replying to the inquiry were thinking only of those employees spending their full time in handling materials, and (2) there is considerable difference between the various branches of the industry as to the amount of materials handling.

Anyone who believes that the cost of handling materials in his plant is under 20% might profitably investigate the soundness of his opinion. He probably will be surprised to find out the true situation, based on the higher wage rates being paid today. No one should consider himself a good judge of the cost of handling materials unless he has taken the time to measure these operations and is qualified to do so accurately.

Our survey indicates that it is an error merely to ask for opinions as to how much handling of materials is costing. Find out accurately; and you will then probably agree with us, if you do not already, that savings in such operations are potentially greater than in most production phases.

We have published many articles showing how particular mills solved materials-handling problems. In some instances, the installations presented might be directly applicable to other mills; but, usually, each system must be specially designed for a definite operation in a particular mill. The articles do show many unusual examples of places where mill men have found it advantageous to install systems to reduce production costs or to improve the lot of their employees.

Dollar savings resulting from elimination of usually back-breaking or tedious jobs are often sufficient to pay in one year for the equipment necessary. But in virtually all cases, materials-handling aids improve working conditions and, in so doing, incalculably improve employee morale. Employees can be counted on to respond favorably to a management which shows tangibly that it is interested in improving their welfare, as well as the financial welfare of the company. Wise mill men, when installing materials-handling equipment, do not overlook its promotional value to employees.

C. H. Bendigo

Joanna Invention Now Available to You

with it you can spin up to

40% MORE YARN PER BOBBIN...

Here you see the larger package produced by paper-tube spinning on the new Joanna Aluminum Adapter compared with conventional warp package.

★ Patent Pending

Cut Your Doffing and Spooling Costs Reduce Ends Down 50% Per Hour

The new Joanna Adapter is the sensation of the industry right now. With it your old spindles can be changed over to paper tube spinning. Moreover, the paper bobbins will be driven correctly—from the top. In warp spinning you will get up to 40% more yarn per bobbin, and in many cases doff them every ten hours, instead of every six hours and twenty minutes for the older type.

Your saving in doffing and spooling alone will pay you 30% on your investment in converting with this new Joanna Adapter. You can also effect other savings by eliminating waste on the spoolers and reducing ends down as much as 50% an hour.

The adapters are made to your own specifications to properly fit your spindles. Cost of complete assembly on your spindle, including grinding and finishing of spindle blade acorn and whirl, does not usually exceed $1.50. This adapter is being used now by Joanna Textile Mills, Goldville, S. C., and other leading mills. We invite you to try it on one frame and compare the improved results.

F. L. REGNERY Corp.

PRECISION TOOLS • PRODUCTION • AND ENGINEERING
(FORMERLY TRANSPORTATION EQUIPMENT CO.)

613 WEST 16TH STREET · CHICAGO 16, ILLINOIS

CLEAN OILY WOOD FLOORS WITH GREATER SPEED . . . *SAFELY!*

Speed in cleaning floors is especially important in mills because of the oil hazard. Frequent cleaning on a regular schedule is essential to worker safety. BUT frequent cleaning calls for care in selecting the method. Should it be wet scrubbing, dry scrubbing, or dry cleaning? *Finnell*, manufacturers of floor-maintenance equipment for more than four decades, recommends wet scrubbing for cleaning oily wood floors. Here's why:

1. Wet scrubbing permits the use of a fast-acting mineral oil solvent, the most effective agent for emulsifying grimy oil and grease for speedy removal with mechanical equipment.

2. Wet scrubbing with a fast-acting mineral oil solvent, such as *Setol*, is *thoroughly safe* — won't injure floors regardless of frequency of cleaning. Obviously, too frequent sanding or grinding down the floor surface is costly in several ways.

The *Finnell* illustrated, a *Self-Propelled Scrubber-Vacuum*, is a complete cleaning unit *all in one*. It applies the cleaning solution, scrubs, rinses if required, and picks up. Has a cleaning capacity up to 8,750 sq. ft. per hour!

Finnell makes equipment for dry scrubbing as well as wet scrubbing, and for dry cleaning, waxing, and polishing. Also a full line of *Cleansers*, *Sealers*, and *Waxes*, as well as *Mop Trucks* and other accessory equipment.

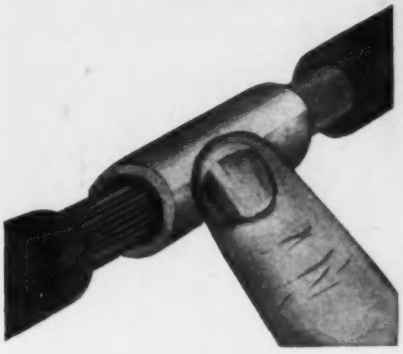
For consultation, free floor survey, or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 1901 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

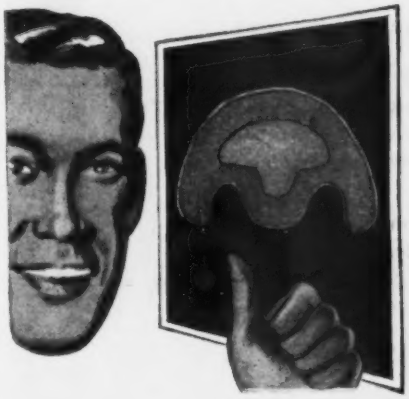
BRANCHES IN ALL PRINCIPAL CITIES



Yes, It's A New Method now used on many of our motors to make winding connections *uniform*, mechanically and electrically. How it works: First, we remove insulating varnish from wire ends by a special process. The bright wire ends are then slipped into this tinned-copper connector. There's no twisting, scraping, unnecessary bending.

Then . . . With A Special Tool, we compress — actually "bond" together — each wire and connector into a homogeneous mass. Every connection is precisely the same as every other . . . no brazing or soldering is used . . . no chance to weaken wires or damage insulation. Wires can't pull out or break-off.

Finally . . . We Slip A Tough, flexible plastic protective tubing over the complete connection. Result: when stator windings are impregnated with insulating varnish and baked out, every connection is uniformly sealed and insulated . . . making a stronger . . . more compact and efficient job . . . another factor demonstrating A-C quality.



Here's An Actual Cross Section microphoto that shows, better than I can tell you, just what happens inside the connection itself. Notice how connector and wires are "bonded" into a single mass. Every connection has precisely the same electrical capacity, assuring balanced phasing.

A-C Builds "Quality" Into Motors

YES, PAYING ATTENTION to details like this new, improved connection contributes importantly toward greater reliability, better performance in motors. Next time you want *good* motors, liberally designed, and with an earned reputation for standing up year after year under toughest operating conditions, specify "Allis-Chalmers". For the complete story call your nearby A-C motor dealer or A-C sales office. ALLIS-CHALMERS, MILWAUKEE 1, WIS.

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ALLIS CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

Plan your Loom Replacements ACCURATELY

...then leave it to C&K's "6 Sentries"* to guard your future Weaveroom Efficiency

As of today's date, make sure to figure your loom depreciation on the basis of *accelerated wartime depreciation* . . . as well as on the rate of peacetime depreciation, both prewar and postwar.

You will plainly see that the prewar replacement figure of 10% of a mill's looms *is no longer anywhere near adequate.* Then you can determine the correct amount of your current yearly replacement fund, to be earmarked for the purchase of new looms.

And meanwhile you can be sure that the new C&K Looms you get for replacements will be exceptionally able administrators of your replacement fund. For whatever type of fabric you weave, the new C&K Looms will bring you certain new features of design and construction. And remember that each of these new features has passed muster with *at least one* of C&K's "6 Sentries" which challenge every new idea for loom improvement, to make sure it will earn more profit for *you.*

Every Improvement-Idea for C&K Looms Must Have the Password for one or More of these "6 Sentries"*:

1. Does it increase Speed of Loom Operation?
2. Does it increase Ease of Loom Operation?
3. Does it improve Quality of Fabric?
4. Does it decrease Cost of Maintenance?
5. Does it improve Continuity of Operation?
6. Does it improve Appearance and Utility?

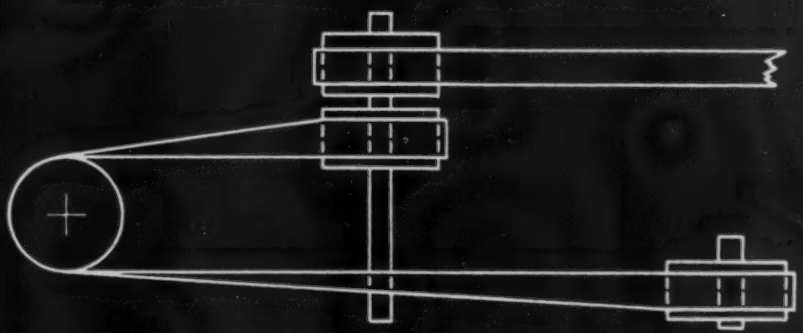
Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.
Crompton & Knowles Jacquard & Supply Co.
Pawtucket, R. I.

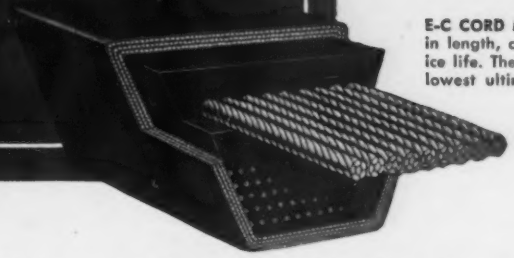
between Today's Knowledge and Tomorrow's Looms

GTM-Specified

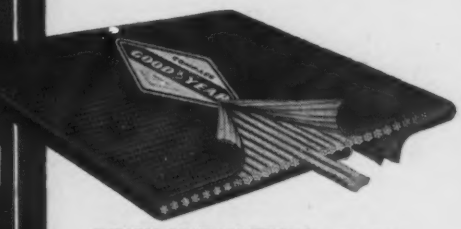
GOODYEAR INDUSTRIAL RUBBER PRODUCTS



MILL-PROVED MONEY SAVERS



Long, Trouble-Free Service with these Goodyear Dependables



ENDLESS COMPASS BELTS for compressors, vertical openers and other heavy-duty drives. In countless installations they have outlived and outperformed ordinary belts three and four to one.

TEXAIR HOSE, most economical ever built for mill clean-up. Light, supple, but unusually strong. Won't soften or weaken through contact with oil. Lasts many times longer than best previous clean-up hose.

E-C CORD MULTI-V-BELTS are uniform in length, cross section, pull and service life. Their perfect teamwork insures lowest ultimate cost.

HERE are three of a long list of Goodyear products that have won a notable reputation in textile mills. With them you get the economy, the dependability, the long-lived service that have made Goodyear first choice of mill owners for years.

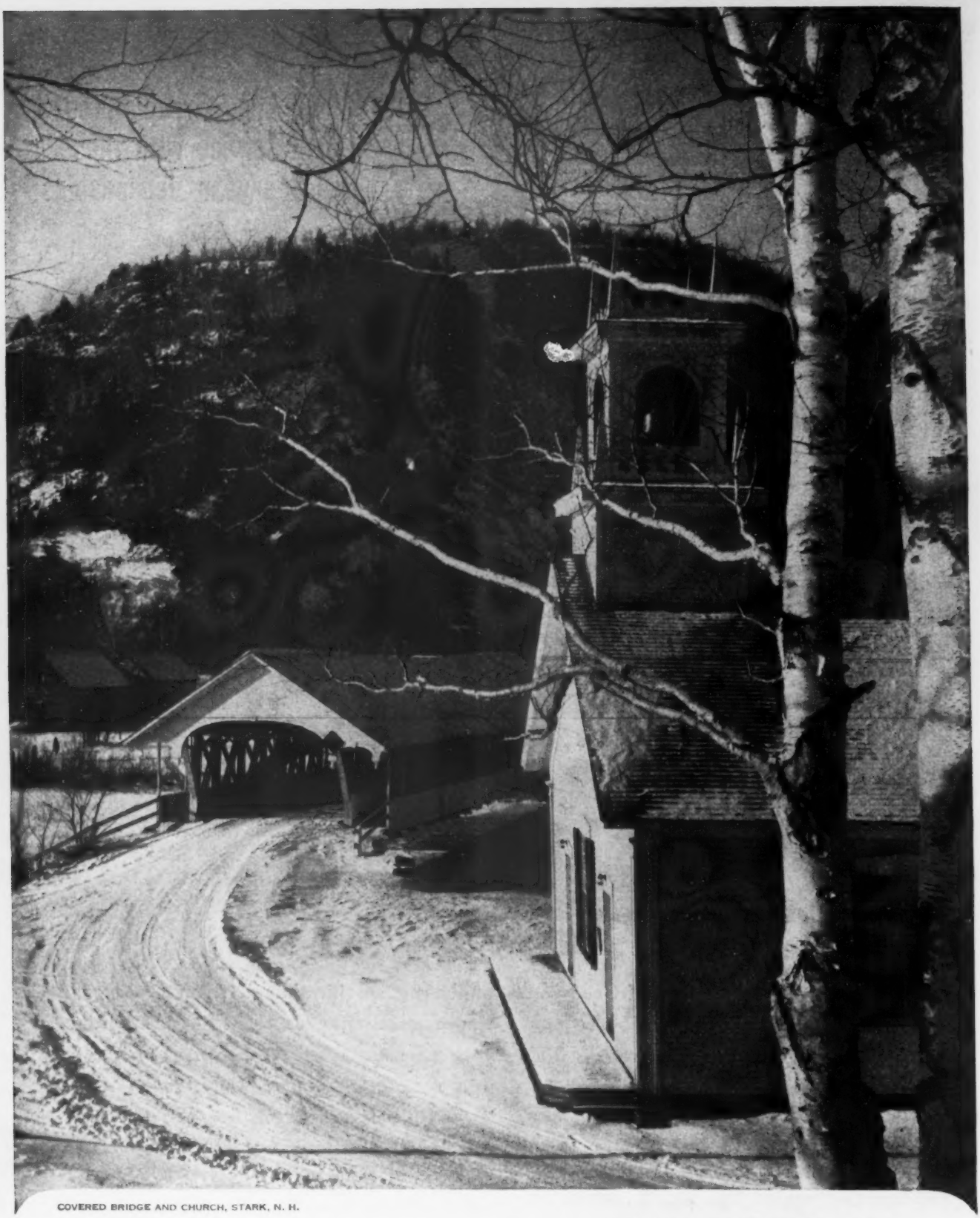
And more — you get the expert counsel of the G.T.M. — Goodyear Technical Man. His on-the-spot specification gives you these superior products in the exact size and construction your problem requires. For more detailed information, why not consult the G.T.M.? Write: Goodyear, Akron 16, Ohio or Los Angeles 54, California.

FOR HOSE, BELTING, MOLDED GOODS, PACKING, TANK LINING built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.

Compass, Texair, E-C Cord —T.M.'s The Goodyear T. & R. Co.

GOODYEAR

THE GREATEST NAME IN RUBBER



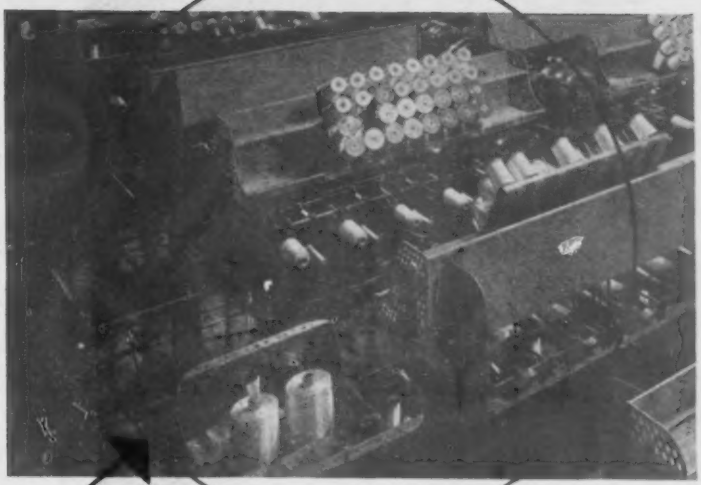
COVERED BRIDGE AND CHURCH, STARK, N. H.

EACH New Year is a new beginning . . . a new opportunity to achieve the inspired hopes of our hearts and minds . . . a new opportunity to serve.

HOWARD BROS. MFG. CO.
WORCESTER 8, MASS.

Harry C. Bdey
President

where will you "build" your new fabrics...



in the weaving shed...

or

in the finishing plant?

The traditional spot for creation of new fabrics is in the weaving process.

Today chemistry has modified that. Progressive producers of fine textiles are developing exciting new fabrics in the *finishing* operation . . . utilizing Resloom, Monsanto's unique textile chemical—Resloom builds new properties into the old constructions.

Resloom delivers the resilience of wool to rayon fabrics or new stability to both cotton and wool. (For example, Resloomed rayons are lower in cost than rayon and wool blends—are more washable, more stable). And the headaches of mixed fiber dyeing and finishing are avoided.

If you are interested in the immense potentialities of new *fabrics* produced with Resloom... get in touch with Monsanto's textile technicians and hear the full Resloom story. Write, wire or phone: MONSANTO CHEMICAL COMPANY, 140 Federal Street, Boston 10, Massachusetts. Resloom: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS — PLASTICS
SERVING INDUSTRY... WHICH SERVES MANKIND

Grinding Weld Zones? What sequence of abrasive grit sizes is best for refinishing a weld zone in E-S 18-8 (Type 302) to a No. 4 polish? How can we prevent a groove at the weld?

Abrasive Type? Are different types of abrasives required for polishing and buffing stainless steels than for other grades of steel?

Blending High Finishes? Practically no polishing wheels are wide enough to cover the area of our product, so highlights show up after final polishing. How can we blend the entire area into a uniform finish?

Electropolishing? What cleaning operations are required before stainless steel products can be electropolished? Will electropolishing remove light weld scale and heat discolorations from stainless?

Passivating Necessary? We generally improve the corrosion resistance of finished stainless steel parts by passivating in 30% nitric acid. Would this be necessary if they were electropolished?

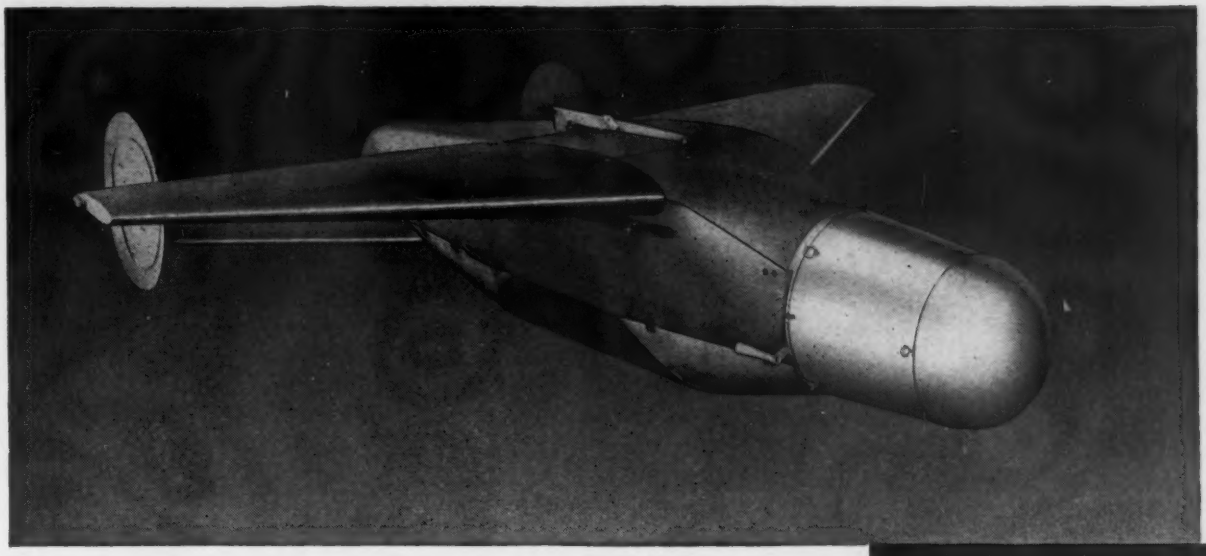
Ask Eastern for the Answer when Stainless is the Question

No matter what problems you may have in grinding or polishing stainless sheet or plate—when you need answers, you can get them from Eastern. Whether you are grinding welds in plate . . . buffing sheet to a mirror finish . . . or electropolishing, Eastern technical men can give you help in a hurry. Yours is an open invitation to call, wire, or write us for whatever assistance you may need in fabricating any type of stainless sheet or plate. And, to have a wealth of information always on your desk, ask for your copy of our catalog, "Eastern Stainless Steel Sheets." JMLcoE-A1

EASTERN STAINLESS STEEL CORPORATION

BALTIMORE 3, MARYLAND

The secret weapon no Jap ship could dodge



Story of the NAVY BAT*. . .

Could a way be found to penetrate enemy anti-aircraft fire . . . and blow each Jap ship to bits . . . *without* losing our pilots?

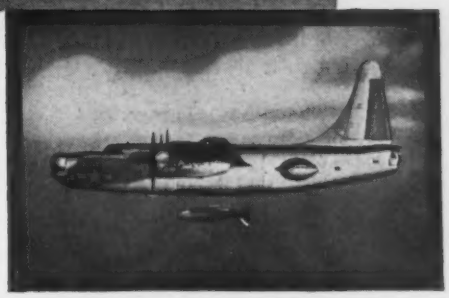
That was the urgent question. And American genius answered with the Navy Bat—a radar-guided glider bomb.

Designed to glide silently at 300 miles per hour—with a 1,000-pound bomb in its belly—the Bat was carried by a Navy patrol bomber.

At a point five miles from the target, the "mother" plane would aim the Bat at a Jap ship and release it. From then on the Bat automatically followed every twist or turn of the enemy ship—and smashed into the dodging Jap.

Used against Jap destroyers, tankers, picket boats—and land installations—this weapon was so effective the enemy thought we had a suicide pilot inside each Bat.

Instead, the Bat contained revolving radar gear to search for the target —and tiny gyroscopes to correct for errors in flight.



"Mother" plane—five miles from target—aims the Bat, releases it, and turns away from enemy anti-aircraft fire. Bat glides ahead.

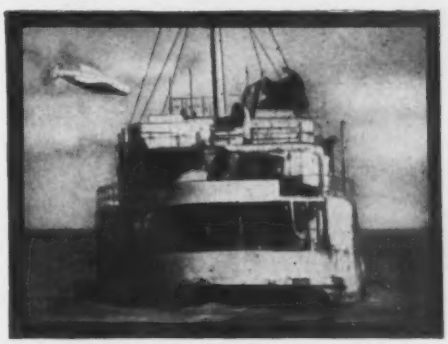
. . . and its 36 BALL BEARINGS

The men who developed this marvel knew that every Bat had to hit its target. They designed special guiding mechanisms. They made them sturdy, trouble-free, delicately responsive. They mounted the moving parts in 36 BALL BEARINGS.

New Departure ball bearings can be mounted in any position. They hold moving parts precisely in place—with unchanging accuracy—under every kind of load. They move with less friction than any other type of anti-friction bearing.

In the Bat—and in many other kinds of mechanized war materiel—375 million New Departure ball bearings helped our fighting men.

Today, millions more of these precision-made ball bearings are helping America at peace. By increasing production—by cutting costs —by serving industry in every field.



Automatically following every change in course of enemy ship—the Bat hits the target. First such weapon successfully used in combat by any nation. (**Sponsored by U. S. Navy Bureau of Ordnance and Bureau of Standards, the Bat is 12 feet long, has a 10-foot wing span. Official U. S. Navy photographs.*)

nothing rolls like a ball

NEW DEPARTURE
forged steel
BALL BEARINGS

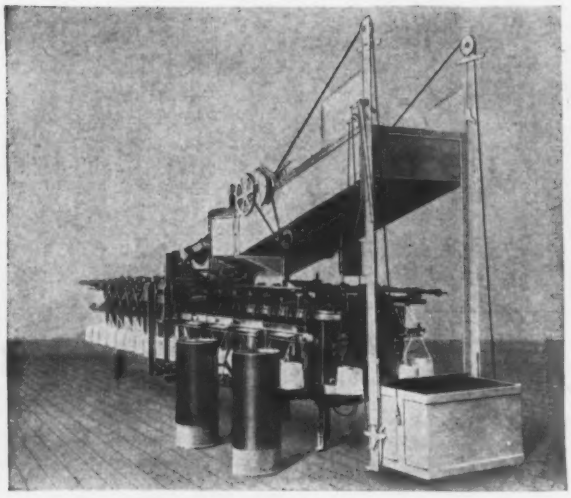
3460

NEW DEPARTURE • Division of GENERAL MOTORS • BRISTOL, CONN. • Branches in DETROIT, CHICAGO, LOS ANGELES and Other Principal Cities

ABBOTT MACHINE COMPANY

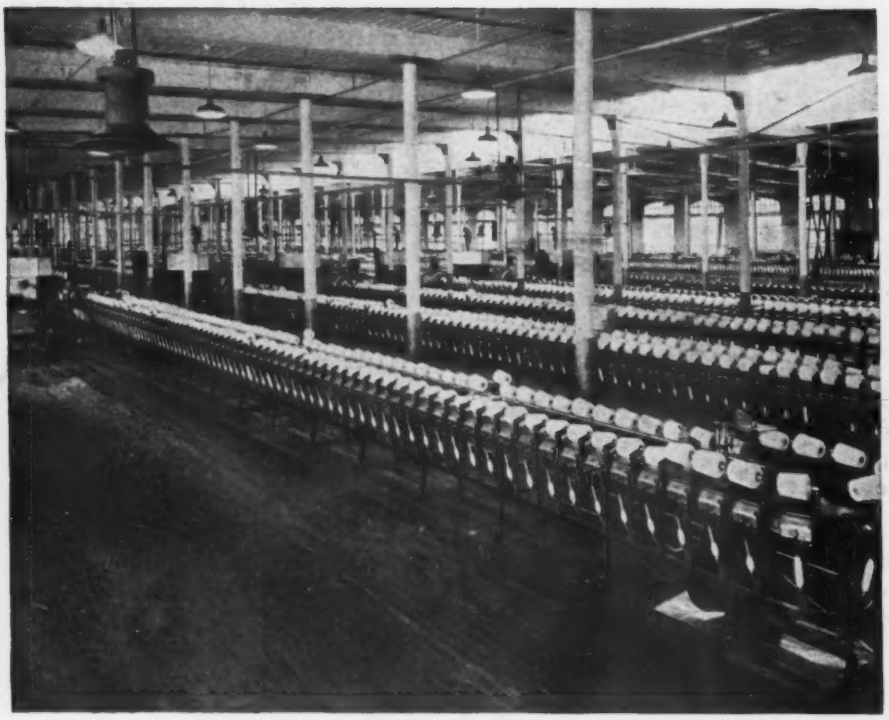
WILTON, N. H.

Southern Representative — L. S. Lignon, Greenville, S. C.



AUTOMATIC QUILLER

Travelling Spindles. Only one automatic head. Empty bobbins are dumped into large box on the floor, a lever is pushed which hoists the box up, dumps the bobbins, and returns to the floor automatically. Full bobbins discharge into cans or boxes. Minimum labor and investment cost. Production 2000 bobbins per hour per operator.



AUTOMATIC CONE OR TUBE WINDER

Travelling Spindles. 60 to 200 spindles with one operator.

Will wind
- Warping cones
- Twisting tubes
- Paper tubes
- Dye tubes
- Knitting cones

Production 900 to 1000 bobbins per hour per operator.

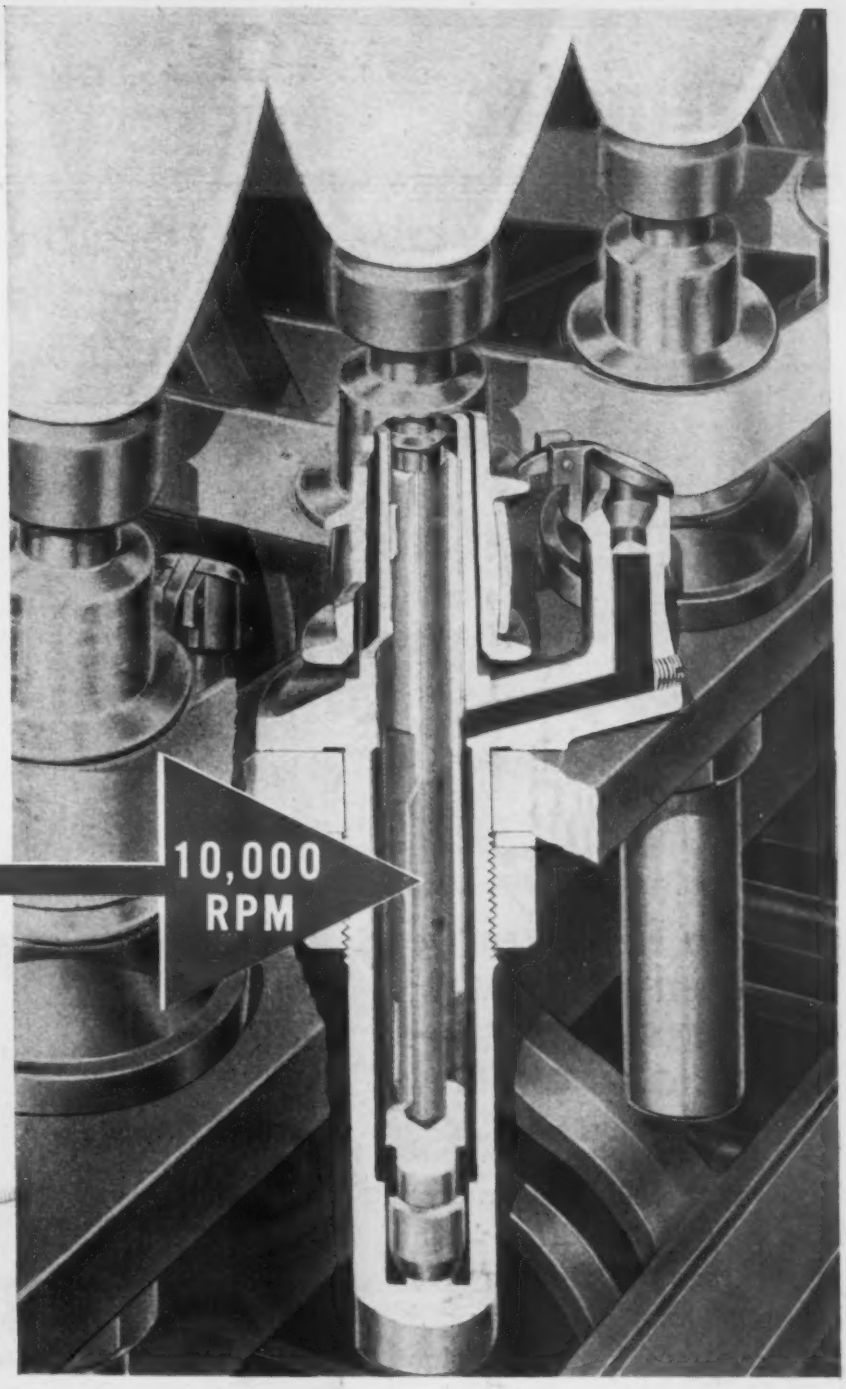
Investigate new method of spinning all yarn on large warp bobbins — wind and slub automatically onto four-pound cones — use cones in high-speed warping — also for rewinding on automatic quiller for filling.

Inside Knowledge on Lubrication Problems

– SPEED –

This is One of a Series of Messages on Common Problems in Your Plant

Pacing a Whirl-wind



SPINNING at 10,000 revolutions a minute, this textile spindle is one of the fastest-moving mechanisms in all industry.

Speed like this means special opportunities for friction, wear and vibration. An unsuitable oil may act as a "drag" on the spindle, increasing power consumption.

Quick-acting Gargoyle Velocite Oils are the answer.

FIRST, their unusual lubricity and resistance to thickening and gumming keep spindles spinning freely . . . minimize friction and spindle "drag."

SECOND, they bond intimately with metal . . . STAY PUT in spite of terrific speed, guard against wear and dampen vibration.

THIRD, their unusual stability and long life minimize "black oil" formation, reduce the necessity for cleaning spindle bases and blades.

Get these oils in your spindles now for lower maintenance costs, important power savings!

SOCONY-VACUUM OIL CO., INC.
and Affiliates: Magnolia Petroleum Company
General Petroleum Corporation

GARGOYLE Lubricants

SOCONY-VACUUM

TUNE IN THE MOBILGAS PROGRAM — MONDAY EVENINGS, 9:30 E.S.T. — NBC

Socony-Vacuum Correct Lubrication

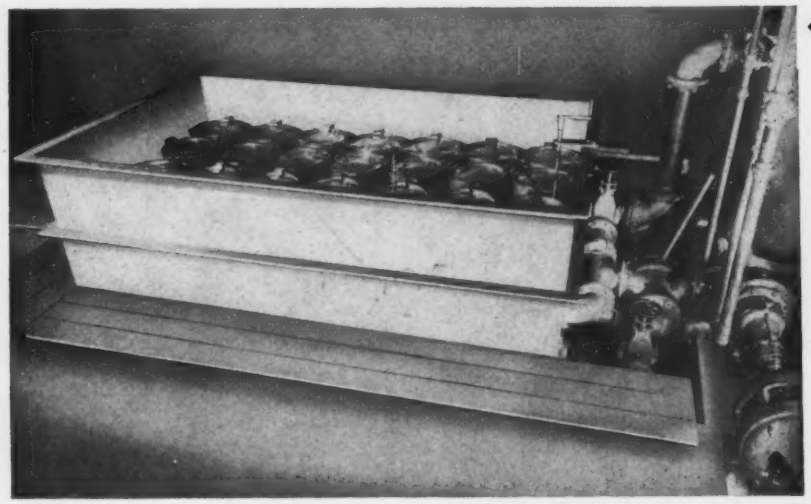
FOR EVERY MACHINE . . . EVERY OPERATING CONDITION

Obermaier Reg. U. S. Patent Office

LOOK FOR THESE MARKS

Stienen Reg. Trade-Mark

THESE NEW WORSTED TOP DYEING MACHINES IMPROVE QUALITY AND PRODUCTION

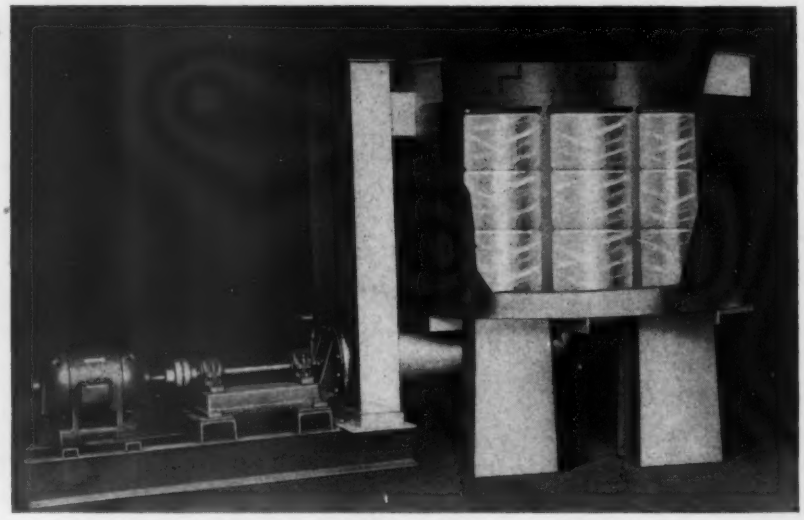


WORSTED TOP DYEING MACHINE

In this new machine each worsted top of 15 to 18 pounds is individually dyed, thus assuring maximum fiber protection. A connected vacuum station extracts moisture from the dyed top, without the tops being removed from their individual pots. All stainless steel construction.

ALSO THE LATEST SPINDLE SYSTEM WORSTED TOP DYEING MACHINE MODEL RAPR

All Stainless Steel Construction, especially designed for dyeing worsted tops by spindle system. Processes tops of different dimensions or uniform dimensions at the same time, giving thorough penetration in either case.



WORSTED TOP DYEING MACHINE—SPINDLE SYSTEM, MODEL RAPR

Standard Fabricators

INCORPORATED

355 WALTON AVENUE ● NEW YORK 51, N. Y.

BUILDERS OF

Cotton and Wool Dyeing Machines — for beams — Package — Raw Stock — Skeins — Rayon Cakes — Dye Spindles — Perforated Tubes — Centrifugal Pumps — Extractors and Dryers.

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SANDOZ PRESENTS *The color achievement of the month*

Pedigreed Fabrics by

AIREDALE WORSTED MILLS

There's a full strain of quality in these Airedale fabrics...suit of Lippitt Venetian Covert worn by Jean Sullivan of the movies and the suit and topcoat of Airedale gabardine worn by Helmut Dantine.

Many fabric leaders, like Airedale Worsted Mills, Inc., consistently specify Sandoz colors because they count not only on high technical standards but also on a research department which is responsible for colors of high efficiency in handling and extreme fastness to mill and wearing conditions.

For example, the Vitrolan (Chromiferous) colors used in the garment illustrated at left, are recommended for such special manufacturing conditions as on fabrics brought directly from the carbonizer to the dye bath. The colors have excellent level dyeing properties and can be depended upon to meet the consistently more rigid retail standards for light and perspiration.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements. Sandoz application laboratories are located in New York, Boston, Philadelphia, Los Angeles, Charlotte, Toronto, where stocks in wide range are carried. Other branches are in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC.
61 VAN DAM STREET
NEW YORK 13, N. Y.

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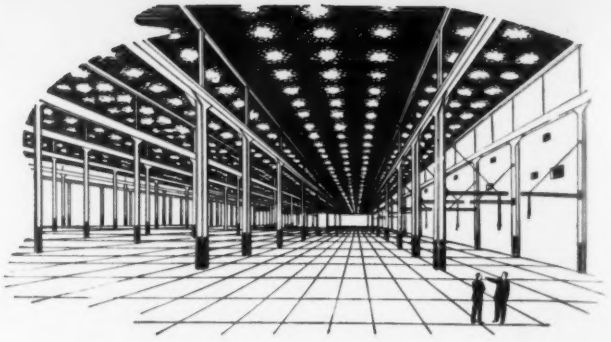
SANDOZ *thinks ahead with textiles*

SANDOZ

The Greatest Forward Step in Carrier History

★

660,000 sq. ft. more to build Carrier Air Conditioning and Refrigeration



Today, more than ever before, Carrier leads in air conditioning and refrigeration. For the acquisition of a huge, new 660,000-sq.-ft. plant in East Syracuse gives Carrier Corporation facilities that are among the largest, most modern in the world for the manufacture of air conditioning and refrigeration equipment!

This additional plant—part of Carrier's great expansion program—is necessary to meet the ever-mounting demand for Carrier products. Together with the large plant in Syracuse, it will in a matter of months produce the greatest volume of air conditioning and refrigeration in Carrier history.

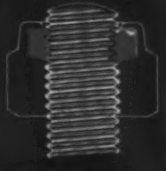
Here, in these vast new facilities, is impressive evidence of Carrier's position in the air-conditioning field . . . a dramatic re-statement of the Carrier leadership which began with the creation of air conditioning 44 years ago.

THE FAMOUS *Red Elastic Collar* IS A SYMBOL OF SECURITY

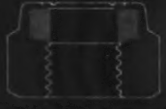
The RED ELASTIC COLLAR is . . .

PERMANENTLY CLINCHED to prevent turning under application and subsequent operational stresses.

PERMANENTLY SECURE against vibration effects. The bolt impresses (does not cut) full contact threads.



PERMANENTLY TIGHT against moisture. Bolt threads have 100% contact in collar — and a full metal seat.



REUSABLE. The Red Elastic Collar retains its grip after repeated usage.

It makes ESNA *Elastic Stop Nuts Self-Locking, Self-Sealing and Reusable*

As a result, all ESNA Elastic Stop Nuts protect assemblies against the effects of: VIBRATION: Elastic Stop Nuts lock in position anywhere on a bolt or stud. Vibration, impact or stress reversal cannot disturb prestressed or positioned settings. . . . CORROSION: Elastic Stop Nuts keep the working threads on the bolt and nut bright and rust-free to protect their strength and permit easy removal without damage to the bolt. . . . THREAD FAILURE: Elastic Stop Nuts dampen impact stresses and materially reduce the shocks against bolt threads that frequently cause metal fatigue. . . . LIQUID SEEPAGE: Elastic Stop Nuts produce a radial-reactive pressure against the bolt threads inside the Red Elastic Collar that makes Elastic Stop Nuts self-sealing against liquid seepage. . . . COSTLY MAINTENANCE: Elastic Stop Nuts are reusable. (Torque tests on aircraft bolts prove that adequate locking torque is maintained through 15 on-and-off cycles.) They do not deform the bolt, damage the threads, gall the finish, or rust.

This wide range of protection permits full purchasing and inventory standardization and its resultant economy. For further information address: Elastic Stop Nut Corporation of America, Union, New Jersey. Sales Engineers and Distributors are conveniently located in many principal cities.

ESNA ELASTIC STOP NUTS

TRADE MARK

INTERNAL WRENCHING

ANCHOR

WING

SPLINE

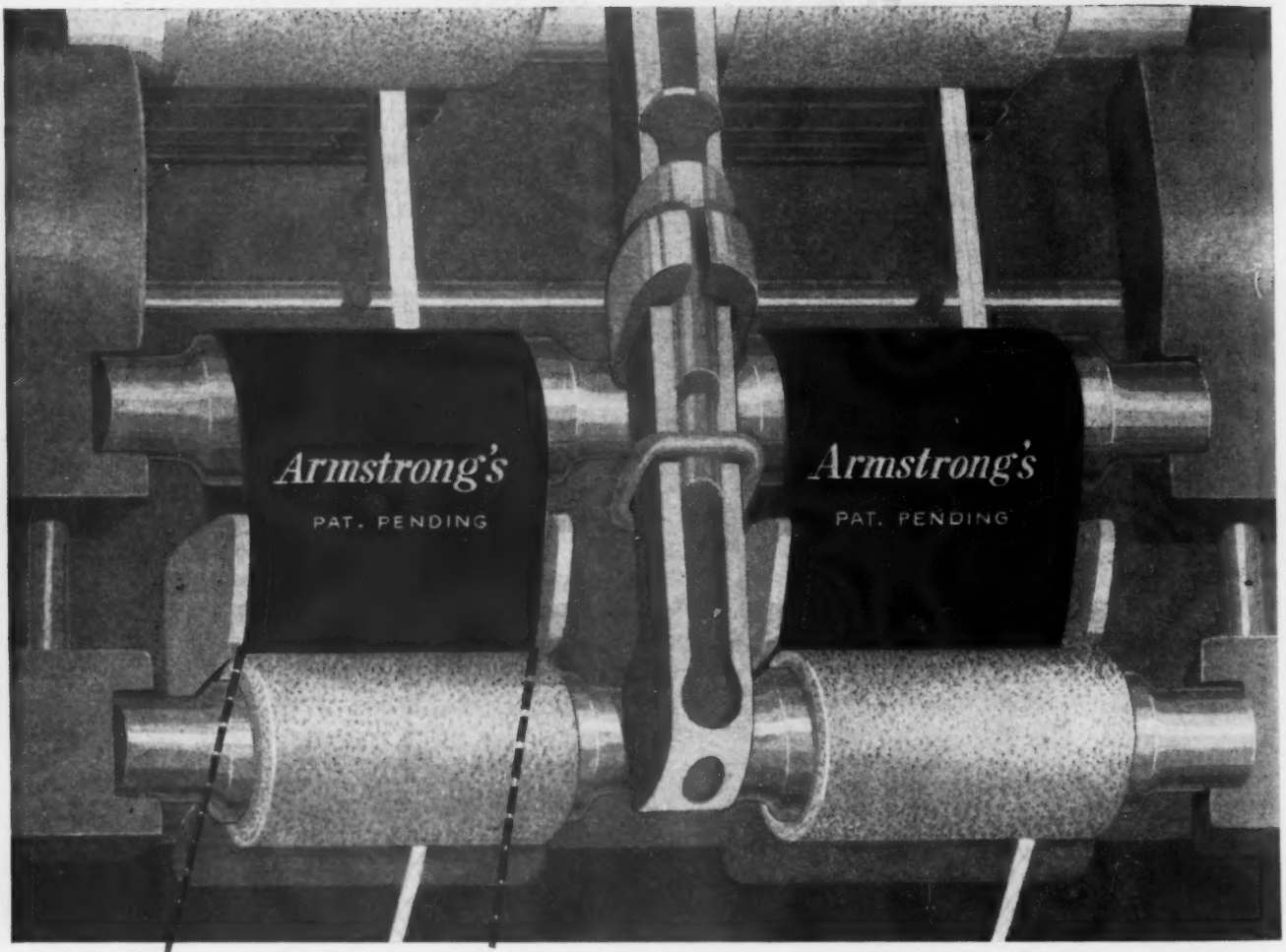
CLINCH

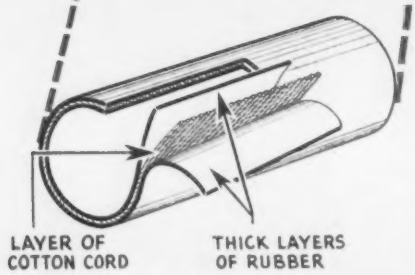
GANG CHANNEL

CAP

PRODUCTS OF: ELASTIC STOP NUT CORPORATION OF AMERICA

Accotex Aprons





Check these extra advantages of Accotex Aprons

Special Accotex interliner construction is shown at left. Besides freedom from stretching, Accotex Aprons offer:

- √ **Long Life:** Accotex Aprons in continual service for more than four years show little sign of wear.
- √ **Uniformity:** All Accotex Aprons have the same composition throughout, and dimensions of every size are accurate.
- √ **Clean-Running:** Accotex Aprons do not crack or scuff. Thus they assure cleaner-running work and less waste.
- √ **Reduced Lapping:** Accotex Aprons are not affected by temperature or humidity. They perform with a minimum of lapping.
- √ **Good Friction:** The efficient "grip" of Accotex Aprons reduces slippage.

ARMSTRONG'S ACCOTEX APRONS

won't stretch or "grow"

You get stronger, more uniform yarn because of exclusive Accotex construction

You won't have to worry about stretching, growing, or sagging when you install Armstrong's Accotex Long Draft Aprons on your frames. These superior aprons fit correctly . . . keep tension constant. They spin stronger, more even yarn throughout their long service life. That's because Accotex Aprons are reinforced with a strong cord interliner. So effective is this non-stretch interliner that, even after years in the mill, an Accotex Apron will still fit snugly on the same form on which it was made.

Accotex Aprons are extra durable, too. Heavy layers of rubber, which enclose the cord interliner, provide a tough wearing surface on both the inside and outside of the apron. The synthetic rubber used is non-oxidizing and not affected by oil. And Accotex Aprons are seamless, so they won't tear or break open during operation.

Ask your Armstrong representative for free samples, prices, and additional information on Armstrong's Accotex Aprons. Or write today for descriptive literature to the Armstrong Cork Company, Textile Products Department, 8301 Arch Street, Lancaster, Pennsylvania.

Also by the makers of Accotex Aprons . . . the Accotex Cot

The result of the same specialized textile research and technical skill that produced the Accotex Apron, Accotex Cots are now serving more spindles than any other synthetic roll covering. Here are eight reasons why Accotex Cots consistently spin higher quality yarn.

1 **Long Service**—Accotex Cots are tough. And they can be rebuffed 5 or 6 times.

2 **Good Drafting**—Accotex Cots retain their excellent grip, because their cork-and-synthetic composition resists slicking.

3 **Reduced Eyebrowing**—The resistance of cork-and-rubber to slicking minimizes eyebrowing.

4 **Reduced Lapping** — Accotex Cots have little affinity for textile fibers and are not affected by temperature or humidity.

5 **Good Start-Up**—Accotex Cots are non-thermoplastic and resist flattening.

6 **Solvent Resistance**—Accotex Cots are not affected by oil, water, dyes, or any of the commonly used textile solvents.

7 **Seamless Construction**—Accotex Cots have no seams—no structural weaknesses to cause premature failure.

8 **Quick Assembly** — Accotex Cots are ready glued for easier, quicker assembly.

ACCOTEX COTS

CORK COTS

Cotton Rolls	Schreiner Calenders	Mangles
Combination Rolls	Chasing Calenders	Padders
Husk Rolls	Rolling Calenders	Squeezers
Paper Rolls	Silk Calenders	Washers
Embossing Rolls	Embossing Calenders	Winders
Friction Calenders	Cloth Pilers	Mullen Testers
	Drying Machines	

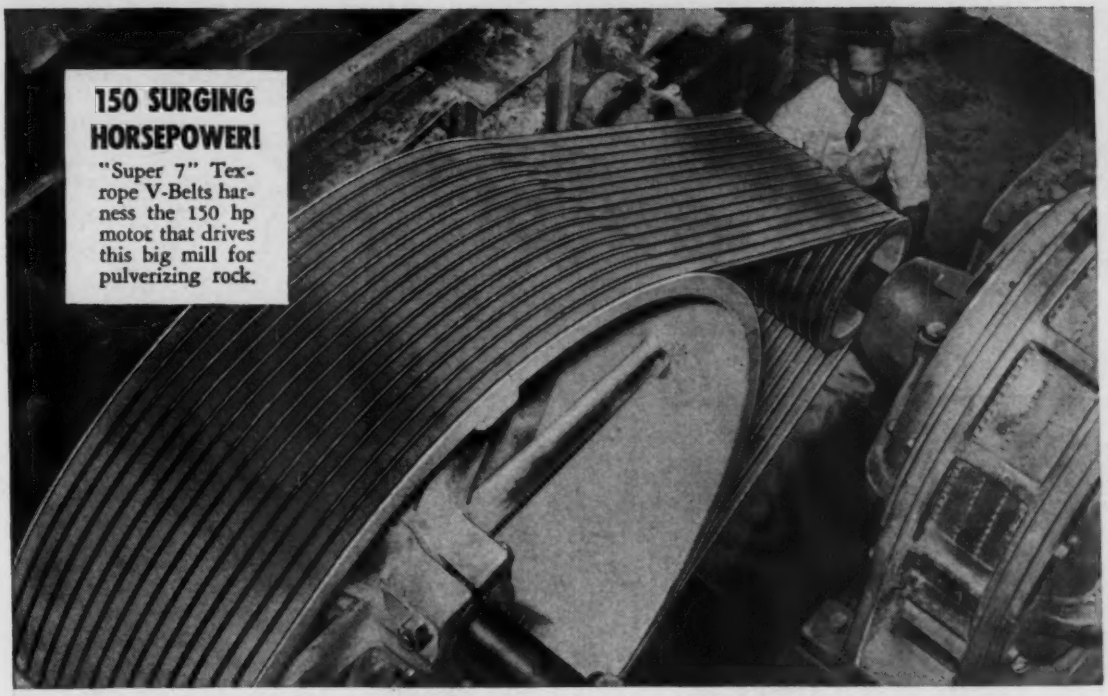
PERKINS HOLYOKE

B. F. PERKINS & SON, Inc.

ENGINEERS AND MANUFACTURERS

HOLYOKE, MASS.

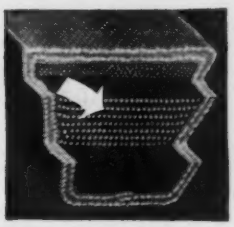
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD



150 SURGING HORSEPOWER!
"Super 7" Texrope V-Belts harness the 150 hp motor that drives this big mill for pulverizing rock.

PULLING POWER

. . . one of the 7 Great Features in "Super 7" Texrope V-Belts!



1. **STRONGER CORDS** give "Super 7" Texrope V-Belts their great pulling power. These long-fibre, hard-twisted cotton cords have the strength of high-test fish lines. Laid row on row and imbedded in heat resistant rubber compound, they provide a powerful load-carrying element.

2. **TOUGHER COVER.** Rugged duplex construction protects the carcass of "Super 7" belts from wear and dirt.

3. **HEAT RESISTANCE.** *All* "Super 7" V-Belts are designed and built to give high resistance to heat.

4. **SHOCK ABSORBING.** "Super 7" construction combines great strength with the degree of resiliency necessary for long belt life and smooth power transmission.

5. **PRECISION CURED** in pressure molds to assure accurate section and perfect bonding of cords, cover and cushion.

6. **ACCURATELY MATCHED.** Every belt weighed, measured and carefully inspected before being sized and packed.

7. **ENGINEERING LEADERSHIP.** "Super 7" Texrope V-Belts represent 27 years of research and experience — by Allis-Chalmers, originator of the Multiple V-Belt Drive.

• • •

There are FIVE types of "Super 7" Texrope V-Belts, to meet every operating requirement: *Standard — Heat Resisting — Oil Resisting — Oil Proof* — and *Static Resisting.* Call your Allis-Chalmers office or dealer. ALLIS-CHALMERS, MILWAUKEE 1, WIS.

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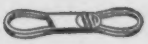
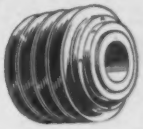
TEXROPE .. Greatest Name in V-Belt Drives

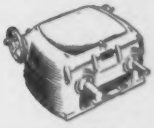


"Super 7" V-BELTS
Five Types — Sizes to suit every power transmission job.

Texsteel, Texdrive, "Magic-Grip"
— sheaves in a full range of sizes, grooves.



"Vari-Pitch" SHEAVES
Exact variations in speed, stationery or motion control.



SPEED CHANGERS
Speed variations up to 375% at the turn of a crank.

ENGINEERING
Finest V-Belt engineering talent in the world—at your call.

TEXROPE "Super 7" V-Belts result from the cooperative research of two great companies — Allis-Chalmers and B. F. Goodrich. They are sold only by A-C.

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

1847 1947 A CENTURY OF SERVICE to Industry THAT MADE America Great

No Bolts or Lag Screws needed

One of 120 C&K W-3 Woolen looms in the Putnam Woolen Mills at Putnam, Connecticut, anchored with Unisorb on maple flooring.

When You Anchor Your Looms with Genuine UNISORB

There's no drilling or boring or damaging floors when you anchor looms with *genuine* Unisorb cushion mountings. It's simple, quick and inexpensive. A special cement securely binds the Unisorb to the machine feet and the floor — permanent set absolutely prevents any riding of the machine.

By controlling vibration with Unisorb — you will realize further dividends through the saving in machine repairs and reduction in shut-down hours; through greater production from speedier operation; through increased efficiency in quieter surroundings; through the reduction of building maintenance costs.

Unisorb does not deteriorate with age or use, nor are its isolation characteristics affected by oil, gasoline or water.

Send for complete information and samples.

THE FELTERS COMPANY

210-W SOUTH STREET, BOSTON 11, MASSACHUSETTS

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this beautiful lithograph

Free!

authentically picturing

The History of Weaving!

Because we have had so many requests for reprints of our series of advertisements "Weavers Through the Ages," which appeared in Trade Magazines during 1945 and 1946, we are now offering the complete series expertly reproduced from the original art work in full, vivid colors.

Authentic in every detail, the artwork depicting "Weavers Through the Ages" has been produced on a high quality offset stock, size 25" x 39", ready for use as a wall hanging. Each illustration and caption may be cut out and framed individually if desired.

SUPPLY LIMITED

Use the handy coupon below to order your free copy of this beautiful reproduction. Ideal for office or den.

Mail this Coupon

A. E. STALEY MFG. CO.

INDUSTRIAL Staley's CORN AND SOY BEAN PRODUCTS SALES DIVISION

DECATUR ILLINOIS

Mr. C. H. Davidson, Manager, Industrial Sales Division, A. E. Staley Mfg. Company
Decatur, Illinois

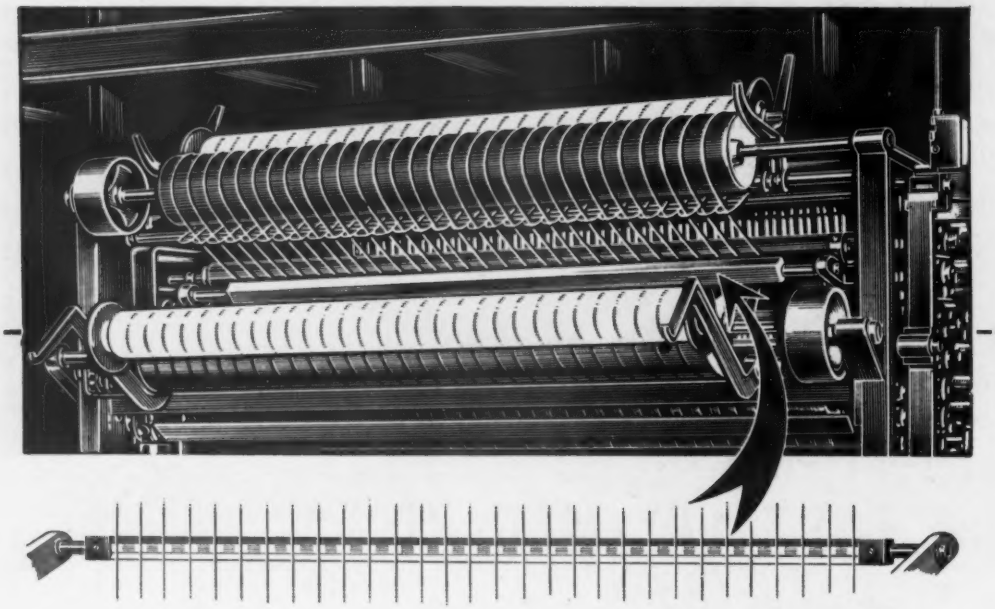
Please send me, without charge, ... copies of the full color lithograph "Weavers Through the Ages."

Name .....

Address .....

City ..... *State* .....

A REPORT OF BASIC PROGRESS IN SOLVING YOUR STATIC PROBLEMS



Installed on a double-apron tape condenser, the Ionotron Static Eliminator makes it easier to place roping ends on the wind-up rolls and also results in more uniform spools. Lower illustration shows active surface of Ionotron. Beneath each roping is a radioactive segment, whose alpha rays free the fibers of trouble-causing static electricity. The Ionotron is placed on the machine so that radiation is directed into the nip, where static charge is highest.

NEW METHOD, already mill-proved on wool carding machinery, permits reduction of humidity . . . reduces frequency of shutdowns . . . simplifies handling of yarn

A NEW and advantageous means of eliminating textile production problems due to static electricity has been developed by the United States Radium Corporation. Called the Ionotron Static Eliminator*, it already has proved its unique efficiency in many industrial installations. In textile mills, it has been successfully employed on the Peralta clearing device and the tape condenser of wool cards, and in the gear box of drawing-frame delivery units.

How the Ionotron Works

The "heart" of the Ionotron is a radioactive source, which continuously emits alpha rays. These rays ionize the air in the critical zone. The ionized air "bleeds off" the static charges before they can cause trouble.

There is no contact between the Ionotron and the fibers or fabric, there are no moving parts, no connection to electrical power source, and no operating expense. Installation is simple and requires no redesign of existing machinery. Heat, cold, and humidity do not alter the efficiency of the Ionotron.

Advantages to Production

Because it eliminates bunching, lapping, and other difficulties caused by static charges in textile fibers, use of the Ionotron increases production by reducing the number of shutdowns. It also results in more uniform windings. It eliminates static problems in fabric-coating operations. It improves working conditions by permitting a substantial reduction of humidity.

We are not ready to claim that Ionotrons will eliminate every static problem from every textile operation. But they have proved highly efficient in the applications previously mentioned. As other installations prove themselves, we will report the facts to you. A knowledge of your requirements for static removal will enable us to make sound recommendations at the earliest possible moment. Use coupon or write us details. *Trade-mark reg. applied for

RADIUM IONOTRON

UNITED STATES RADIUM CORPORATION

SEND COUPON FOR FURTHER INFORMATION . . .

if you would like to be informed of further progress in static elimination, as the Ionotron proves its effectiveness in other textile applications.

Dept. F4, U. S. Radium Corp.
535 Pearl St., New York 7, N. Y.

Gentlemen:

Please keep me informed of the success of the Ionotron Static Eliminator in textile applications.

Name ..... Title .....

Firm .....

Address ..... City ..... State .....

I am interested in eliminating static in the .....

.....

(type of equipment and yarn or fabric)

Accidents happen...

Chen Wai Sze was quiet amidst the babble of voices in the old tea house beside the river.

The merchants were gathered, as was their custom, to exchange the day's news of their boats carrying precious cargo to distant cities.

Gravely old Chen listened as the merchants spoke courteous commiserations to the luckless one whose boat had capsized in the treacherous rapids, whirling to destruction the wealth accumulated through years of labor.

At last Chen spoke. "My honored brothers: the grass by the river bank is green, thick are the willow trees, always hungry are the rapids of the river. And fear of utter loss is constant in our hearts.

"Let us then bring our boats together. Let each of us place in each boat a small portion of his cargo. Thus when a boat must satisfy the maws of the river, each of us will lose a little, but none of us will lose his all."

So it was that the merchants shared the chances of loss on the great river that flows forever to the sea.

How EMPLOYERS MUTUALS of Wausau help you to keep ... forever ... part of all you earn

The difference between income and expenditures is yours to keep—forever—*if you protect it.*

That is the purpose of insurance—to protect the assets of a business or an individual.

If you take a chance that disaster will not strike you or your business, you may save a little. But disaster does strike someone—hour after hour, day after day.

Through Employers Mutuals, more than a hundred thousand policyholders share their chances of loss. Each pays his small share of the total cost; each gains protection against disaster.

What are your chances of loss today?

If you are an employer: one out of every 25 men and women employed this year will be killed or seriously injured in accidents at work.

If you drive, or your employees drive: one out of every 28 motor vehicles will kill or seriously injure a man, woman, or child this year. Hundreds of thousands of drivers will have accidents involving property damage. This damage alone will total over $600,000,000. How much could you afford to pay for one of these accidents?

Wherever you live: there will be a fire in one out of every 100 dwelling places this year, at an average cost of $325.61 per fire.

EMPLOYERS MUTUALS of WAUSAU

.....make Insurance

EMPLOYERS MUTUAL LIABILITY INSURANCE COMPANY OF WISCONSIN *Established 1911*

EMPLOYERS MUTUAL FIRE INSURANCE COMPANY *Established 1935*

are waiting to Somewhere...all the time

Employers Mutuals Service helps keep them from happening to you!

EVERY day of the year accidents kill 260 people and seriously injure 28,100 more—at home, at work, on streets and highways. The total cost is well over a million dollars a day.

Tonight hundreds of thousands of men are with their families—men who would not be there except for the outstanding achievements of Employers Mutuals engineering service in reducing accidents and saving lives.

The outstanding reputation of Employers Mutuals for accident prevention began many years ago. Back in 1911, in Wisconsin, a group of farsighted manufacturers decided to share their chances of loss in order to lower the actual cost to each of them. That was the start of Employers Mutuals—the beginning of a story of service.

Because accidents kept the cost of insurance high, they put safety engineers on the job to wipe out the causes of accidents and to devise safer methods of working. Then came industrial nursing, first aid programs, and modern physiotherapy laboratories.

Employers Mutuals service followed the needs of the policyholders. When one needed service in Michigan, Employers Mutuals obtained a charter to operate there. Another policyholder wanted coverage in New York, then in Texas. Again Employers Mutuals went along. Today they are represented in all 48 states.

Large business organizations insure with Employers Mutuals

Thousands of important companies place their insurance with Employers Mutuals because they have made it their business to investigate the sound administration, outstanding service, and reduced accident rates that mean lower insurance costs.

It is equally good business for you to insure with Employers Mutuals

It is sound business for you to enjoy the same advantage of Employers Mutuals safety work, the prevention of accidents—no matter where they may be waiting for you—and the consequent lower insurance costs. Use the coupon to get information about the policies you may need.

Clip and Mail Coupon Today

How Employers Mutuals Make Insurance Understandable

Employers Mutuals have always endeavored to make insurance understandable, through their representatives, and through the E-M Insurance Survey. Now they are furthering this endeavor through informative advertising and by the publication of "A Dictionary of Insurance Terms—How to Understand Insurance and Buy it Intelligently." This dictionary, with more than 200 definitions, and many specific examples, is yours for the asking.

FREE!

Just fill out, clip, and mail the coupon for your copy, and for information on policies you may need.

Check the Coverages in which you are interested

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- Burglary ☐
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- Tornado ☐
- Boiler & Machinery ☐
- Public Liability ☐
- Workmen's Compensation ☐

Others:.....

.....

Insurance Information Bureau,
Employers Mutuals of Wausau,
Wausau, Wisconsin.

Please send me, free, "A Dictionary of Insurance Terms" and information on the insurance checked, for:

☐ Business ☐ Personal protection.

NAME.....

OCCUPATION OR TITLE.....

COMPANY.....

ADDRESS.....

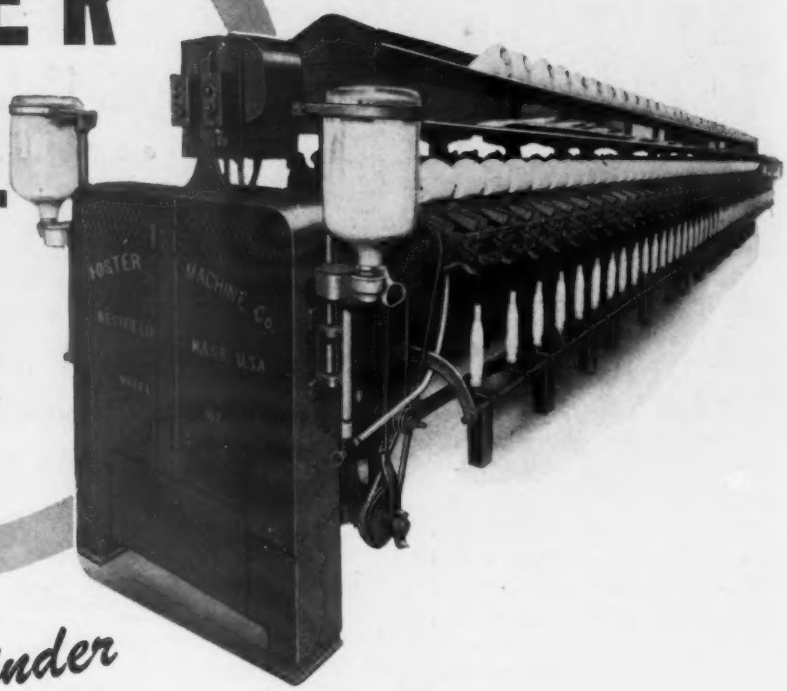
CITY.....STATE.....

Understandable

HOME OFFICE:

WAUSAU, WISCONSIN

FOSTER MODEL 102



The Versatile Winder For Wool and Worsted

The Foster Model 102 winds soft twist and hard twist yarns of any count or type, on warping cones, knitting cones, parallel tubes, dye packages or twister packages. It can be built to wind 6" traverse or 7" traverse, any taper and any angle of wind from 9° to 18°. This is the versatility of Foster 102.

Low maintenance is another feature of Model 102. All machine parts contacting the yarn, including traverse guides, are made of hardened metals or porcelain, specially selected for the purpose. Sturdy construction, with reduced vibration and wear, means longer service without repair. Repair costs run as low as $3.50 per year per 100 spindle machine.

Other advantages of the Foster Model 102 may be summed up as increased production features. The 102 can be built to take a 7" traverse cone if desired, reducing doffing and handling. It is equipped with one of several Foster self-threading tension and slub-catching devices, and operates at high speeds winding soft twist yarns (one mill we know is running 70s worsted yarn at 400 y.p.m.). The supply bobbin is always in exact alignment with the tension bracket, near enough to get a single balloon, thus reducing strain on the yarn. The empty bobbin conveyer below the bobbin pins empties directly into a standard sized truck, — eliminates lifting and rehandling.

Put it all together and it spells better winding of wool and worsted at less cost, with the Foster Model 102.

FOSTER MACHINE CO.
WESTFIELD, MASS.

Southern Office: Johnston Building, Charlotte, North Carolina. Canadian Representative: Ross, Whitehead & Company, Limited, University Tower Building, 660 Ste. Catherine Street West, Montreal, Quebec.

Firestone Velon*

so easy to weave . . . so easy to sell

Unaffected by humidity

With Firestone *Velon* you are, for the first time, independent of atmospheric conditions . . . and without expensive equipment. This new yarn is moistureproof, maintains constant size and working-ease regardless of relative humidity. No storage problems, either.

Velon is as easy to work as conventional yarns, which means smooth production. No special equipment or skill is required to make the wonderful fabrics that defy dirt, staining, shrinkage, fading, wear and age – and which sell so easily. Write Firestone, Akron, for complete details and technical advice.

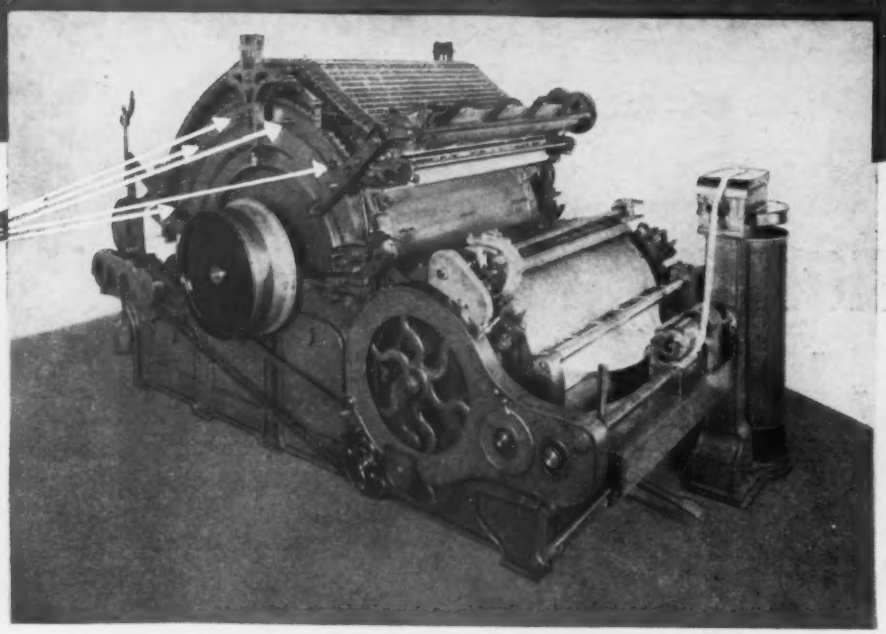
LISTEN TO THE VOICE OF FIRESTONE MONDAY EVENINGS OVER NBC

BEST TODAY··· STILL BETTER TOMORROW

Velon* THE FABRIC OF TOMORROW ON THE LOOMS OF TODAY

*TRADE MARK

PERFORMANCE FEATURES



THE GOOD PERFORMANCE of any machine is the result of intelligent design, superior materials and skilled workmanship. H & B Cards perform well because they are made well. Here are a few outstanding features which contribute to the success of this machine:

1. The 5 distinct setting points, visible in the above illustration, may be used singly or in any combination to control setting to .001 inch. These points, while easily accessible, must be unlocked with a special key once a setting has been made. This prevents change by other than the authorized operator.

2. The bends and flats can be kept perfectly concentric with the cylinder at every point until the clothing is worn out. No other arrangement has secured such accuracy nor has any adjustment yet been invented which approaches this one for reliability and simplicity.

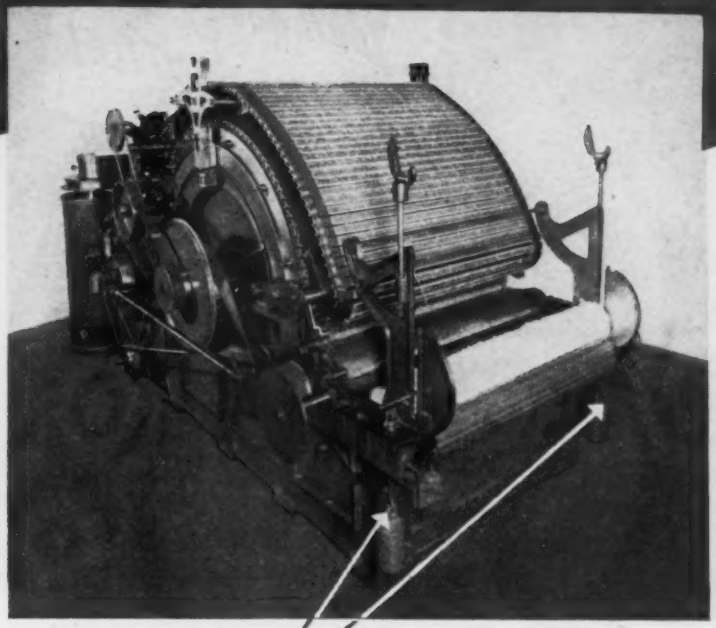
3. Bearings for cylinders are made of phosphor bronze and pedestals are adjustable either vertically or horizontally. This is a very important point because the concentricity of the cylinder with the bends can be maintained as the bearings wear. The construction of our card side is such that a very rigid support is given to the pedestals. Pedestals last the life of the card.

H&B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

OF H&B REVOLVING FLAT CARDS

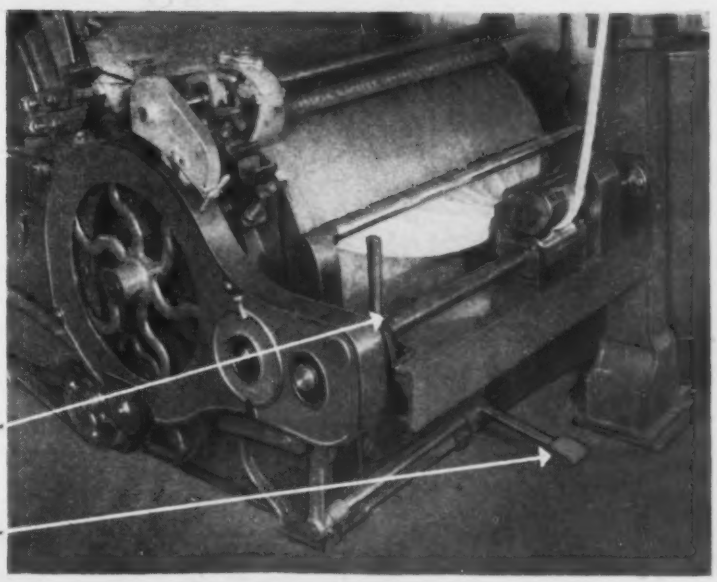


New Feed Roll Weights

RECENT IMPROVEMENTS

ON THIS VIEW of the H & B Revolving Flat Card you can see the feed roll weights are hanging below, instead of as formerly, above the roll. Notice, too, on the opposite page, how the old disengaging handle is gone, and how the new one (shown below) saves alley space and permits easier operation when piecing up.

THIS CLOSE-UP shows the new drop lever with its disengaging handle and the convenient, new treadle at the front of the card which actuates the drop lever. By merely stepping on this treadle the doffer can quickly and easily do his job when necessary, without lost motion or delay.



New Disengaging Handle

New Foot Treadle

MACHINE CO.

Textile Machinery

DIVISION PAWTUCKET, RHODE ISLAND, U.S.A.

BRANCH OFFICES
ATLANTA, GA.
815 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING
CHARLOTTE, N. C.
1201 JOHNSTON BUILDING

For Crompton & Knowles S-6 Looms...

STEEL CUTTER PLATE is mounted on front wall of shuttle. It is accurately positioned and securely mounted to withstand operating shocks.

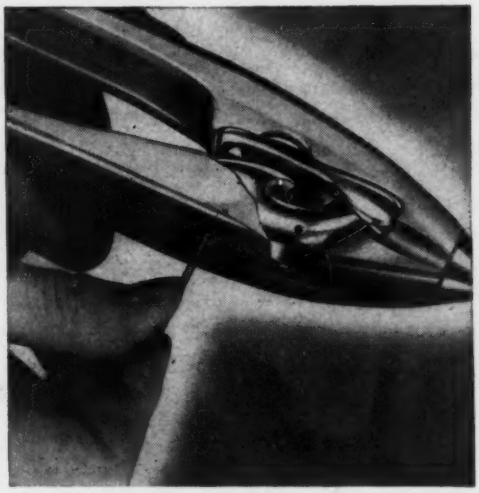
FITTED WITH STEEL CUTTER PLATE FOR POSITIVE THREAD CUTTING

AVAILABLE NOW is this new U S Shuttle designed to operate with the thread-cutting device of the new Crompton & Knowles S-6 loom. It is equipped with an alloy steel cutter plate, accurately positioned for efficient operation and securely installed to stay tight for the life of the shuttle. Design details were worked out by U S and C & K engineers.

Another feature of this Shuttle is the Jackson Tension Eye. This eye has been thoroughly mill-tested and the Jackson Pad Tension Device has proved to be unsurpassed for positive threading. Die cast of brass and formed to tolerances of .004" to .005", the eye permits complete interchangeability. When necessary, changeover to a left hand eye for left hand twist can be made in less than five minutes.

Keeping in step with all new loom developments is a habit with U S design engineers. They have been collaborating with leading loom manufacturers for nearly 90 years.

If you have already ordered new S-6 looms, or plan to order them in the future, get complete information on this new shuttle. A U S representative will be glad to show you a sample and explain its features.



JACKSON PAD TENSION can be easily adjusted to meet varied requirements for different counts of yarn with the use of the simple adjusting tool. The tension is adjustable from the front or, if necessary, from the back also for a wide range of filling yarns. Diagonal top screw locks setting at desired tension.

Available for Prompt Delivery

U S BOBBIN & SHUTTLE CO

PROVIDENCE, R. I.
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CHICAGO AGENT:
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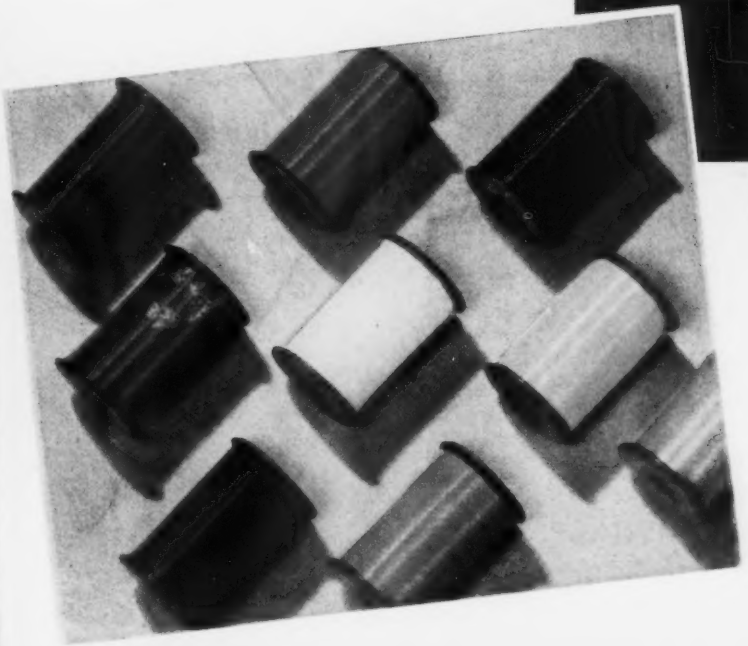
THE SEAL OF QUALITY AND SERVICE SINCE 1857
US
ESTABLISHED 1857

Saran BY NATIONAL

FILAMENTS WITH A FLAIR FOR FASHION

SARAN BY NATIONAL has scored one of its greatest achievements in the textile industry, where these strong, pliable monofilaments are constantly weaving smart fabrics into a new and impressive selling story.

Fabrics woven of Saran are being fashioned into luxurious handbags and shoes, in a wide range of multicolored designs and patterns which no fashion-conscious eye can resist. Saran fabrics won't soil easily. They defy dirt, grease, chemicals . . . are easy to keep clean and fresh. For fashion accessories or wear resistant upholstery, Saran takes every textile problem in its stride. Whatever your product, you'll do well to investigate Saran now.



CONSULT NATIONAL FOR CREATIVE COOPERATION

We manufacture no finished products. But, as suppliers to the trade, we maintain complete research and experimental laboratories, staffed by skilled technicians, to help you in the application of SARAN to your product. You are invited to avail yourself of these services.

NEW YORK: EMPIRE STATE BUILDING

The NATIONAL Plastic Products Company

ODENTON • MARYLAND

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
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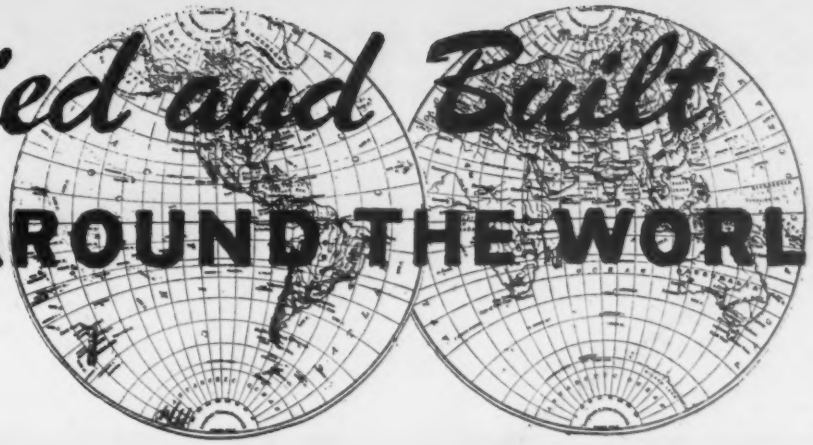
For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840

"Specified and Built AROUND THE WORLD by KOHORN"



More Complete
More Efficient
RAYON PLANTS

DESIGNED . . .
INSTALLED . . .
OPERATED . . .

by the world's oldest and most experienced builders of plants for the manufacture of rayon yarn, stable fiber and cellophane.

Our intimate knowledge of RAYON MANUFACTURE in various countries and of Labor, Climate, Raw Materials and other important factors, assures you of a RAYON PLANT in the right locality and of advanced design and equipment to Produce at a Profit.

We have recently placed RAYON PLANTS into operation within 18 months from the time buildings were started.

WRITE FOR FULL INFORMATION

OSCAR KOHORN & CO., Ltd.
501 Fifth Ave. NEW YORK, N. Y.

"As Specified by KOHORN"
Around the WORLD

ACE RUBBER

For Rayon and other Textile Processing

Solid Hard Rubber and Rubber Lined Pipe and Fittings

Hard Rubber Lined Pumps

Hard Rubber Lined Diaphragm and Gate Valves

Hard Rubber Candle Filters, Cores, Caps, Bobbin Holders, Etc.

Hard Rubber Lined Steel Tanks

Hard Rubber miscellaneous molded parts

ACE-SARAN SPINNERETTE COUPLINGS

PRODUCTS OF AMERICAN HARD RUBBER COMPANY, NEW YORK 13, U. S. A.

Protected Equipment

"As Specified by KOHORN"
Around the WORLD

BAKER PERKINS

VISCOSE PRODUCTION EQUIPMENT

- ○ SHREDDERS
- ○ BARATTES
- ○ VISSOLVERS

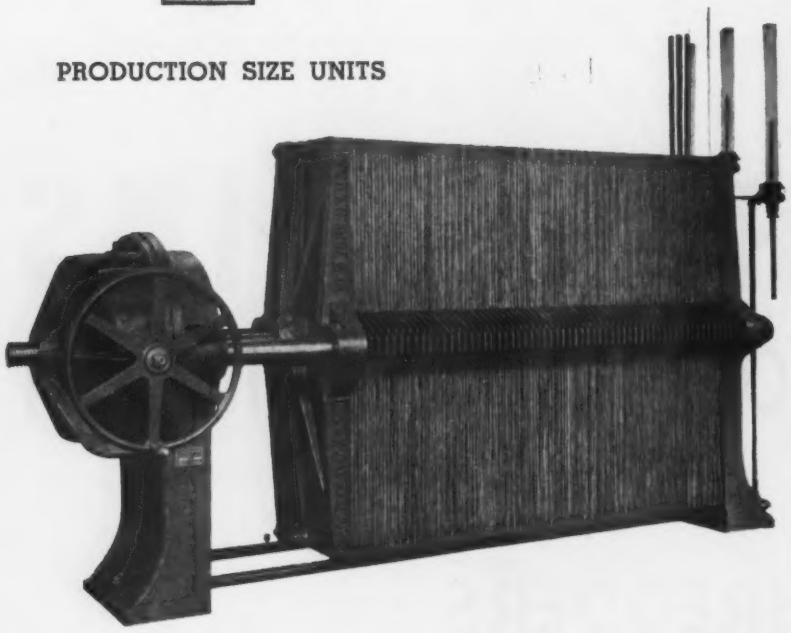
BAKER PERKINS INC.

CHEMICAL MACHINERY DIVISION
SAGINAW, MICHIGAN

"As Specified by KOHORN" Around the WORLD

BMC

PRODUCTION SIZE UNITS



FOR LARGE
QUANTITY SEPARATIONS

WEBCELL CONTINUOUS DIALYSERS

FOR CAUSTIC SODA RECOVERY

Batteries of these machines are being installed in new viscose rayon, staple fibre and cellophane plants now under construction in Brazil and Egypt.

by

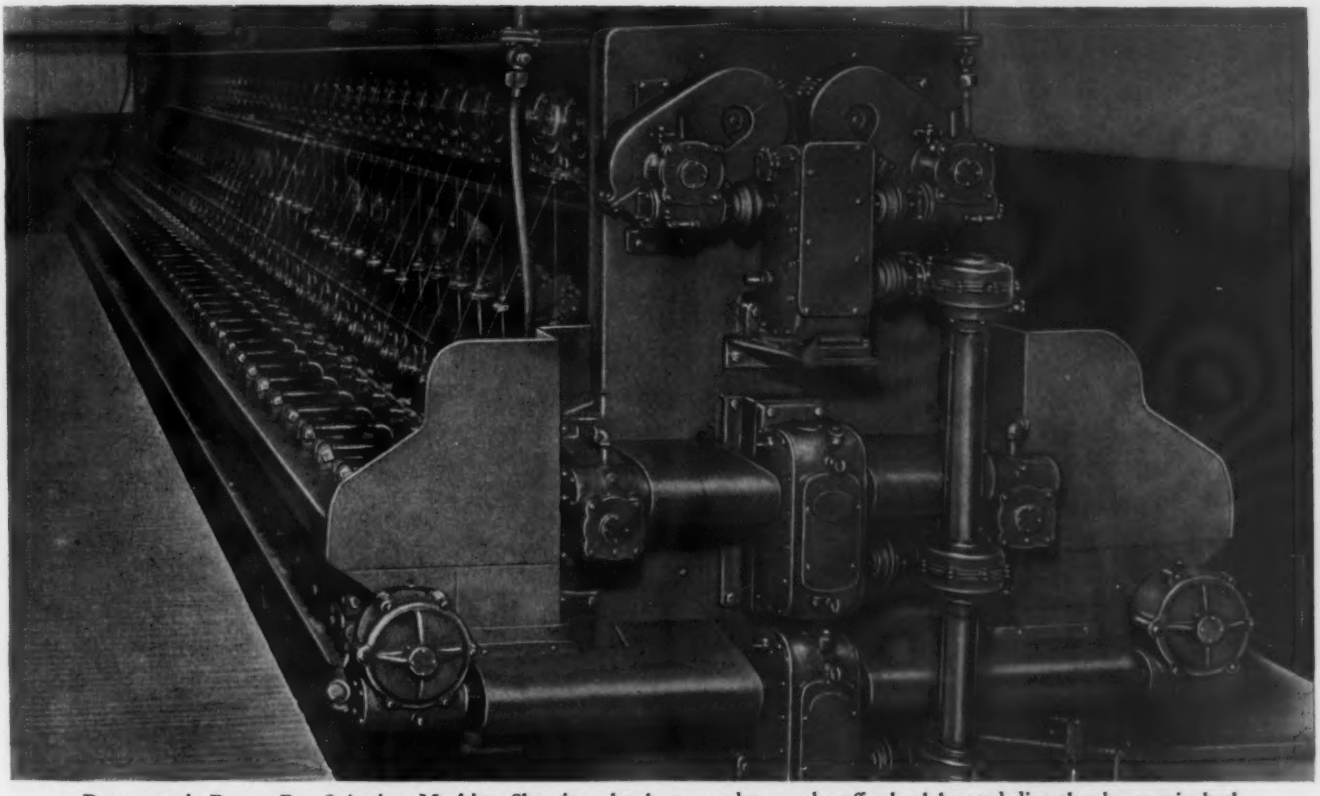
OSCAR KOHORN & CO., Ltd.

BROSITES MACHINE COMPANY, INC.

50 CHURCH STREET (Cable Address—BROMACH) NEW YORK 7, N. Y.

Telephone - COrtlandt 7-1188

"As Specified by KOHORN" Around the WORLD



Butterworth Rayon Pot Spinning Machine Showing the lower godet or take-off wheel located directly above spin bath

Butterworth "Spinmaster" Speeds Rayon Output

Call the roll of the great new rayon plants —in Egypt, in Brazil, in Chile, in Peru— and you will find they are Kohorn-built and Butterworth-equipped. The new Butterworth "Spinmaster" is breaking spinning room records in mills all over the world. The "Spinmaster" traverse produces cakes that are open and easily washed, saving both chemicals and time. Butterworth Rayon Spinning Machines are built entirely without cams, run in oil and are automatically lubricated. Speeds range as high as 90 strokes per minute. Butterworth Pot and Bobbin Machines are furnished in standard models or built to specification. Let us give you full details.

For export—Consult KOHORN.

BUTTERWORTH

H. W. BUTTERWORTH & SONS COMPANY, Philadelphia 25, Pa.

TEXTILE FINISHING MACHINERY COMPANY DIVISION, Providence, R. I. - 1211 Johnston Bldg., Charlotte, N. C. W. J. Westaway Co., Hamilton, Ont. - ARGENTINA: Storer & Cia., Buenos Aires - AUSTRALIA: Noel P. Hunt & Co., Ltd., Melbourne - BELGIAN CONGO: Paul Pflieger & Co. - BOLIVIA: Schneiter & Cia., Ltda., La Paz - CHILE: Schneiter & Cia., Ltda., Santiago - COLOMBIA: C. E. Halaby & Co., Medellin - CUBA: Thos. F. Turrull, Havana. ECUADOR: Richard O. Custer, S. A. Quito - FRANCE: Georges Campin, Le Perreux, Seine; Rene Campin, Sceaux, Seine - MEXICO: I. Slobotzky, Mexico, D. F. - MIDDLE EAST: Arlind Corporation - NORWAY: Dr. Ing. Otto Falkenberg, Oslo - PERU: Custer & Thommen, Lima - SOUTH AFRICA: Texmaco, Johannesburg - SWEDEN: Elof Hansson, Goteborg - URUGUAY: Storer & Cia., Ltda., Montevideo - VENEZUELA: Herbert Zander & Co., Caracas.

"As Specified by KOHORN"

Around the WORLD

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EASTERN SERVICE

Design . . . Fabrication . . Erection

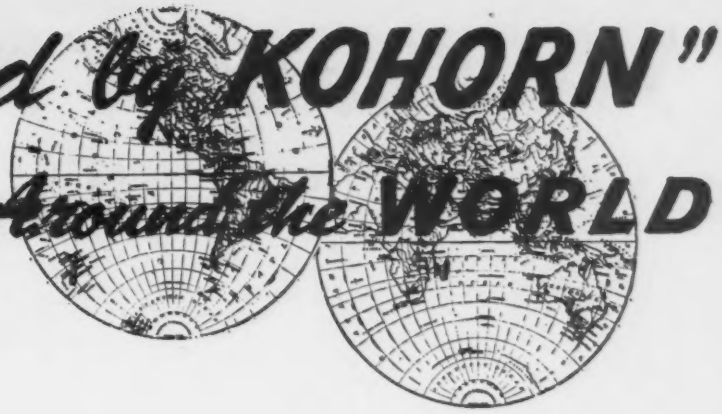
Riveted or Welded Construction

Fuel Oil Storage Tanks • Hot Water Tanks • Pneumatic Tanks Pontoons • Pontoons Pipe and Shore Pipe • Caissons, Concrete Forms Well Casings • Lead, Rubber, Etc., Lined Tanks • Smoke Stacks, Breechings, Flues and Ducts • Pressure Vessels—A.S.M.E., U.S.C.G. A.B.S. & other Inspection Agencies • Chemical Plant Equipment, such as: Agitator Tanks, Kettles—Mixing, Filtering, Rendering • Storage Bins and Hoppers • Beer Storage and Fermenting Tanks • Distillery Equipment • Plating and Annealing Tanks • Water Treating and Filtering Tanks • All Types Steel Plate Fabrication

EASTERN STEEL TANK CORPORATION

Gardner & Stewart Aves. Brooklyn 6, N. Y.

"As Specified by KOHORN" Around the WORLD



Processes and Equipment for the Electrochemical and Process Industries

Electrolytic Installations:

Caustic soda and caustic potash of highest purity—concentrated solution and solid
Chlorine of highest purity, liquefied chlorine
Sodium chlorate, Potassium chlorate

Utilization of Chlorine:

Synthetic hydrochloric acid—chemically pure and technical
Carbon tetrachloride
Trichloroethylene and similar chlorinated solvents
Metal chlorides
Bleaching powder and bleaching solutions
Calcium hypochlorite
Phosphates—pure and fertilizer grade
Activated Fuller earths
Potassium chlorate
Conversion of rayon spinbath sulfate into salt and sulfuric acid

Process Industries:

Carbon disulfide
Recovery of sulfate and sulfuric acid from rayon spinbaths
Cellulose from bamboo, esparto, etc.

Tell us your conditions. We are qualified, by over 35 years' experience, to meet your requirements.

ELECTROCHEMICAL CONSTRUCTION CO.

18 EAST 41 STREET NEW YORK 17, N. Y.

"As Specified by KOHORN"
Around the WORLD

HUNGERFORD & TERRY, INC.
WATER TREATMENT PLANT

Now under construction for:

FABRICA VICTORIA de PUENTO ALTO, S. A.

SANTIAGO, CHILE

Manufacturers of Viscose Rayon Yarn
and Viscose Rayon Staple.

Hungerford & Terry, Inc.

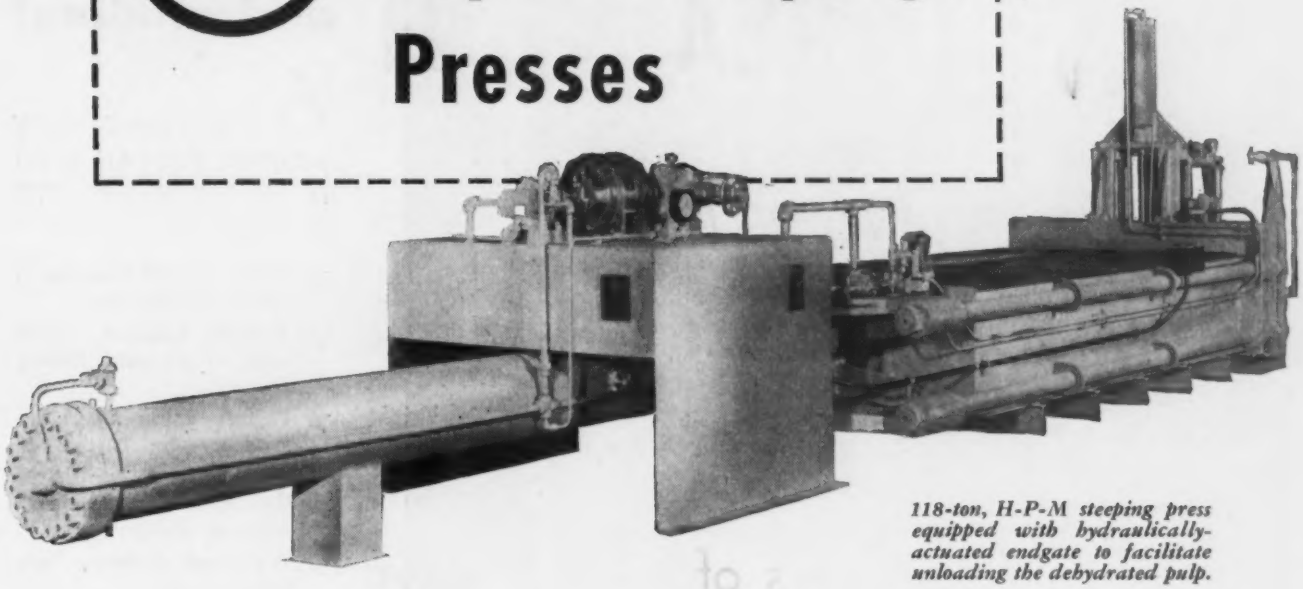
Clayton, New Jersey, U. S. A.

Specialists in the manufacture of fully guaranteed water treating equipment for the textile industry for nearly half a century.

"As Specified by KOHORN" Around the WORLD

HPM

Rayon Steeping Presses



118-ton, H-P-M steeping press equipped with hydraulically-actuated endgate to facilitate unloading the dehydrated pulp.

The H-P-M steeping press is a self-contained, horizontal-acting hydraulic press with platen traversing in an open-top tank. Vertical plates divide the steeping tank into compartments which hold the sheets of pulp on edge.

These sheets of wood pulp, cotton linters pulp, or a combination of both materials, are steeped in the caustic soda solution contained in the press tank. After steeping, the tank is drained and the press removes the excess moisture in the pulp.

H-P-M steeping presses are built in eight sizes, as small as 60 tons and up to 118 tons . . . the choice of leading viscose rayon producers the world over. Detailed literature and quotations furnished on request.

The Hydraulic Press Manufacturing Co.

MOUNT GILEAD, OHIO, U. S. A.

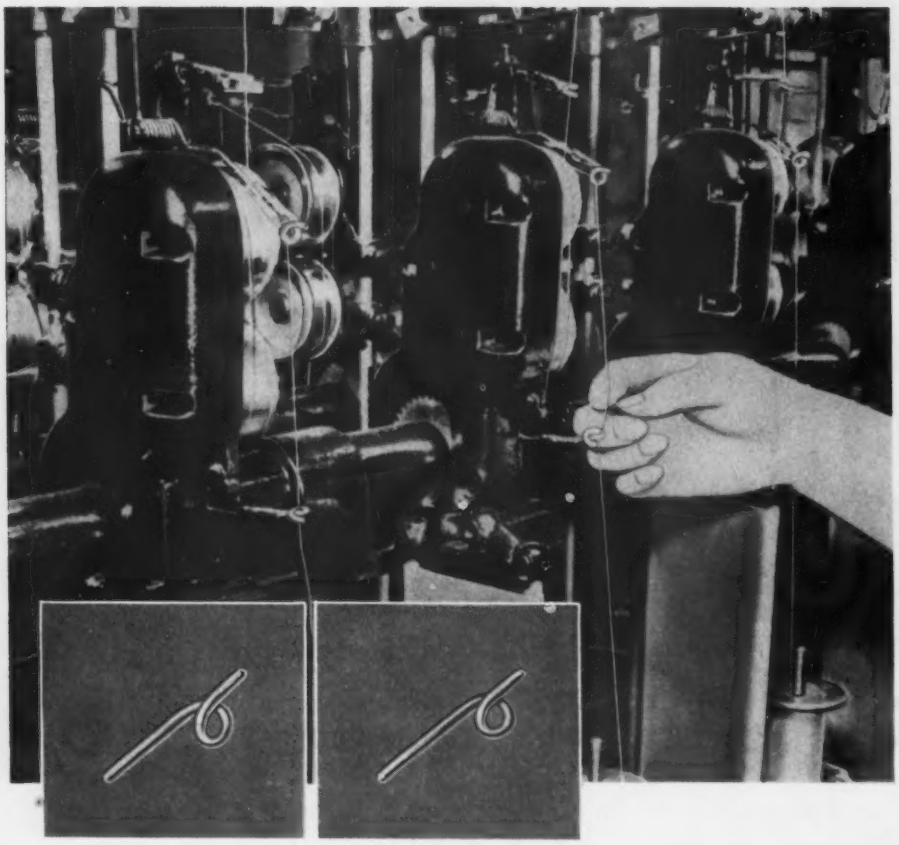
REVOLUTIONIZING PRODUCTION WITH HYDRAULICS SINCE 1877

"As Specified by KOHORN" Around the WORLD

NORRIS

INDUSTRIAL SAPPHIRE AND HEANIUM

THREAD GUIDES



...The reliable guides to lower costs in spinning and winding!

6 REASONS WHY NORRIS PIGTAIL AND RING GUIDE INSERTS ARE BEST:

- ★ **Will not break filaments in rayon or nylon fibre**
- ★ **Extreme hardness resists wear — prevents fraying threads**
- ★ **Perfect polish minimizes friction — resists lint accumulation**
- ★ **Unaffected by chemicals, acids or alkalis**
- ★ **Withstand extreme, high temperatures**
- ★ **Outlast metal or ceramics many times**

NORRIS THREAD GUIDES OF SYNTHETIC SAPPHIRE OR HEANIUM OFFER TWO OF THE HARDEST KNOWN MATERIALS. WHEN PROPERLY PROCESSED, THESE SUBSTANCES PROVIDE FLAWLESS, LONG-LIFE SURFACES.

You can't afford to let your mill take time out while worn thread guides are replaced or threads are checked back for seconds. Idle men and machines and a high percentage of imperfect runs mean soaring costs. One sure way to help keep your plant going is to insure spinning and winding operations with NORRIS Sapphire or Heanium thread Guides.

These tough, but gentle, pigtail and ring guide inserts handle rayon and nylon threads with "kid gloves" and stay on the job for years. In actual use—in severe, year in—and year out—operation NORRIS guides have been found to be as good as new after five years.

Prevent seconds . . . miles of damaged thread . . . hours of checking back on quality . . . eliminate costly shutdowns for thread guide replacement. Help keep your whole plant humming by keeping your spinning and winding machines running—use NORRIS thread Guides. Specify them when rebuilding equipment, too. It will pay you to get the whole NORRIS story, now. A note on your company letterhead will receive prompt attention. Write today to Industrial Specialties Mfg. Co., 131 Avery Ave., Flushing, L. I., N.Y.

Norris
FLAME-TIPT PRODUCTS

Sapphire and Heanium
THREAD GUIDES

"As Specified by KOHORN" Around the WORLD

O. G. KELLEY EQUIPMENT

to meet the

"Acid Test" of Industry

LEAD INSTALLATION IN RAYON AND STAPLE FIBER PLANTS

- LEAD AND LEAD-LINED TANKS
- LEAD BURNING AT OUR PLANT OR ON LOCATION
- HOMOGENEOUS LEAD BONDING
- HARD LEAD AND LEAD LINED VALVES, PIPING FITTINGS, CASTINGS, AND COCKS
- PUMPS—HARD LEAD, LEAD LINED, RUBBER LINED STAINLESS STEEL, NICKLE, MONEL, ALUMINUM AND BRONZE

Recent KELLEY Installations for KOHORN Include Plants in PERU • BRAZIL • CHILE • EGYPT

LEAD STEEL WOOD

O. G. KELLEY & CO.

fabricators of equipment for the process industries

NEW YORK CITY
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95 Taylor Street
BOSTON 22, MASS.

JOHNSON CITY
TENNESSEE

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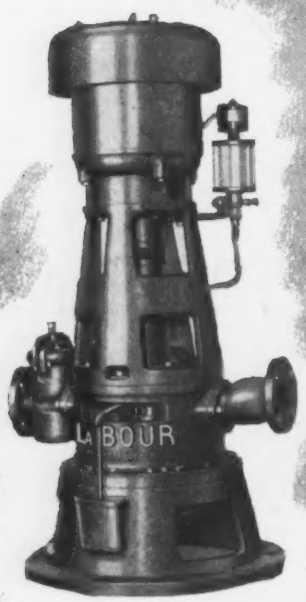
LaBOUR



LABOUR CENTRIFUGAL PUMPS

Self-Priming and Non-Priming

For handling liquid chemicals in textile plants, experienced engineers choose LaBour pumps because a quarter of a century of service throughout the chemical industry has proved that LaBour delivers the utmost in dependability.

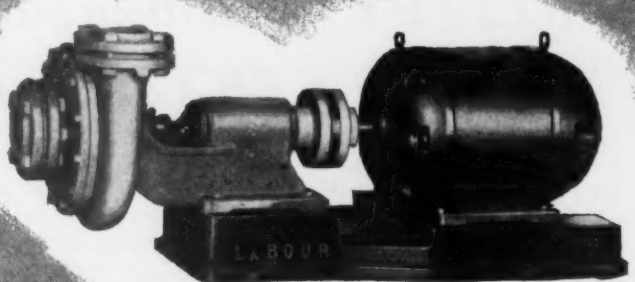
LaBour pumps are dependable because they are simple; there is only one moving part in a LaBour. Performance in the field is assured by extraordinary care in manufacture, plus a rigid test under actual operation which every LaBour pump must pass before it is allowed to leave the factory.

The repeated specification of LaBour pumps by the Kohorn organization has been earned by performance delivered—just as the Kohorn reputation has been built up by wise selection of equipment to assure profitable operation by their clients.

THE LABOUR COMPANY, Inc.
Elkhart, Indiana, U.S.A.

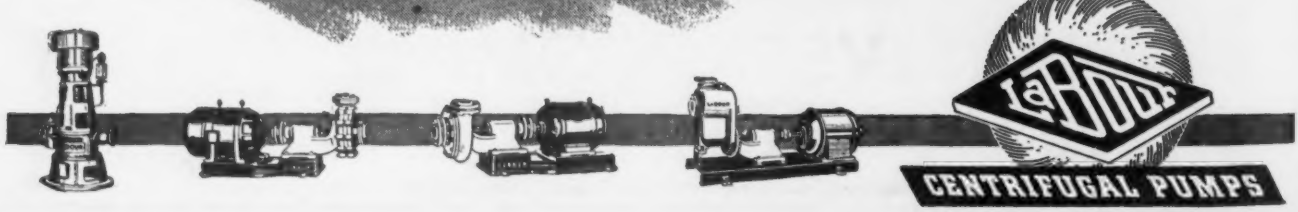
THE LABOUR TYPE G

Here is the maintenance engineer's dream come true—a self-priming centrifugal pump with no packing, no mechanical seal, no parts that rub at any time. Bulletin 51 gives complete details.



THE LABOUR TYPE Q

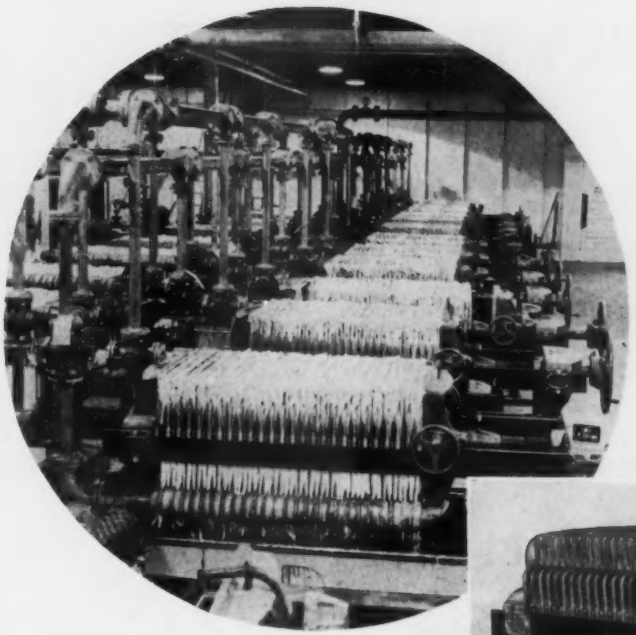
Although not classed as a self-priming pump, this LaBour has sufficient air or vapor capacity to prevent binding. Type Q is an open-impeller pump of unusually high efficiency.



LaBOUR
CENTRIFUGAL PUMPS

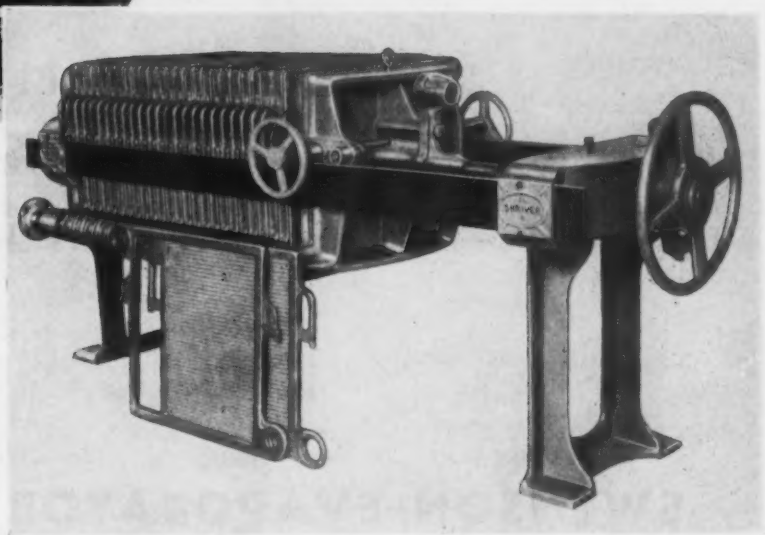
"As Specified by KOHORN"
Around the WORLD

SHRIVER
FILTER PRESSES



are the leading
filtration equipment
used in viscose and
acetate rayon manufacture

More than 1500 Units
operating in
American Plants alone



Continuing to meet the rapidly expanding production needs of the rayon industry, we are happy to co-operate with Oscar Kohorn Company, Ltd., in equipping their new South American plants.

T. SHRIVER & COMPANY, Inc.

813 Hamilton St. • Harrison, N. J., U. S. A.

"As Specified by KOHORN"
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SWENSON

ACID RECLAIM SYSTEM AND EQUIPMENT

SPIN BATH EVAPORATORS
VACUUM CRYSTALLIZERS
ACID RESISTANT FILTERS

for

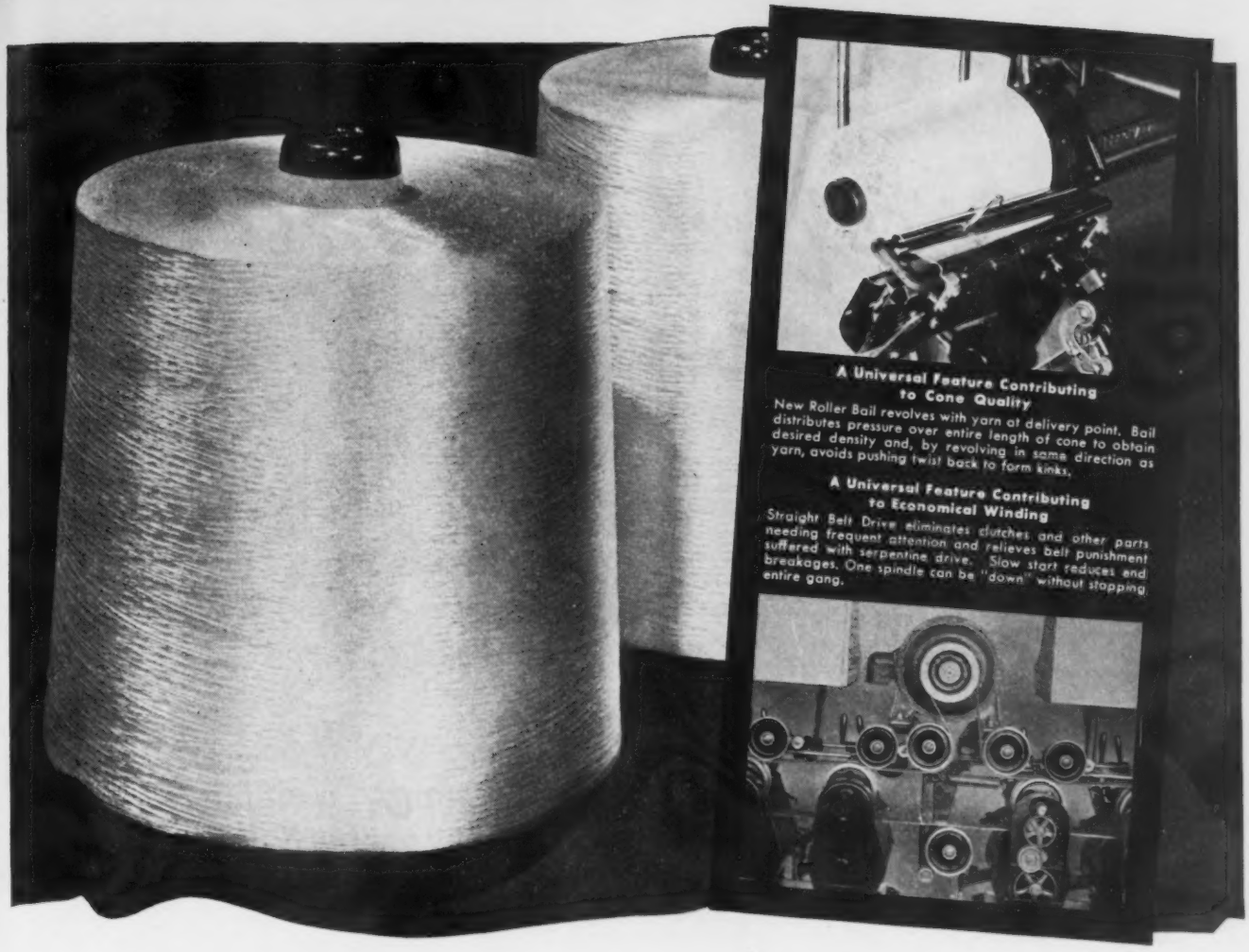
VISCOSE RAYON PLANTS

designed, built and operated

under Kohorn supervision

SWENSON EVAPORATOR COMPANY

Division of Whiting Corporation: 15650 Lathrop Avenue, Harvey, Illinois
Export Dept.: 30 Church Street, New York 7, New York


A Universal Feature Contributing to Cone Quality
New Roller Bail revolves with yarn at delivery point. Bail distributes pressure over entire length of cone to obtain desired density and, by revolving in same direction as yarn, avoids pushing twist back to form kinks.
A Universal Feature Contributing to Economical Winding
Straight Belt Drive eliminates clutches and other parts needing frequent attention and relieves belt punishment suffered with serpentine drive. Slow start reduces end breakages. One spindle can be "down" without stopping entire gang.

If it's Synthetic Filament Yarn

IT'S ALMOST SURE TO BE "UNIVERSAL" WOUND

LEESONA

Reg. U. S. Pat. Off.

Wherever you go throughout the world, synthetic filament yarn is coned almost exclusively on Universal No. 50 "Precision" Winding Machines.

Yarn manufacturers prefer the No. 50 because it is flexible . . . because settings are easily and accurately made to give proper control over the yarn . . . because the machine is sturdily constructed for long life . . . and because of a number of Universal design features which save operating and maintenance time and improve quality of work.

Users of the cones prefer the "Universal" type of package (identified by the flat base) because it is compact and secure, capable of resisting severe handling . . . because it is uniform in density throughout, wound under accurately controlled tension and pressure . . . because it contains yarn that has been carefully inspected and can be depended upon to deliver without interruption due to yarn imperfections.

UNIVERSAL WINDING COMPANY

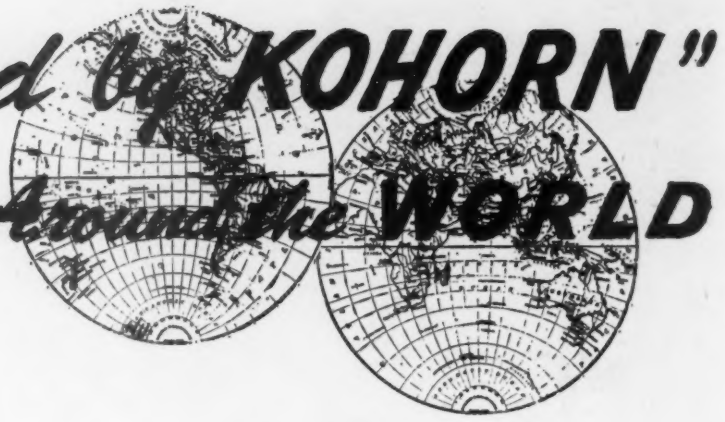
Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles, Montreal, Hamilton.

23.6.8

MORE THAN 90% OF ALL SYNTHETIC FILAMENT YARN ON CONES IS PRECISE-WOUND ON THE FLEXIBLE 50

"As Specified by KOHORN"
Around the WORLD

"As Specified by KOHORN" Around the WORLD



OSCAR KOHORN & CO., LTD. specify Westinghouse in all of their Rayon manufacturing plants. Westinghouse equipment now in use or in the course of installation in Kohorn rayon plants throughout the world, includes:

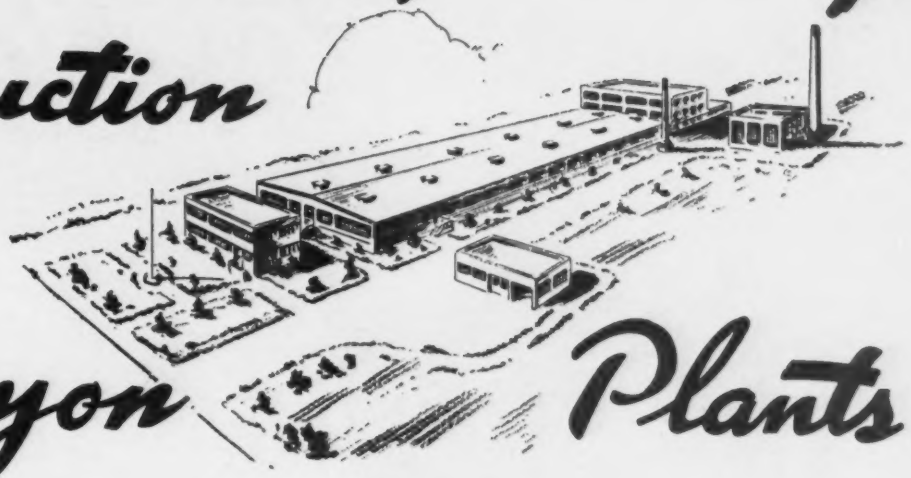
Electric Motors—Switchgear—Controls
Rayon Spinner High Frequency Motors
Micarta Spinning Buckets and Covers

Westinghouse Electric International Co.

40 Wall Street — New York 5, U. S. A.

Everything Electrical for the Textile Industry

Complete Engineering AND Construction OF Rayon Plants



Attention Spinners!

STAPLE FIBER production is economical from 200,000 pounds per week up.....

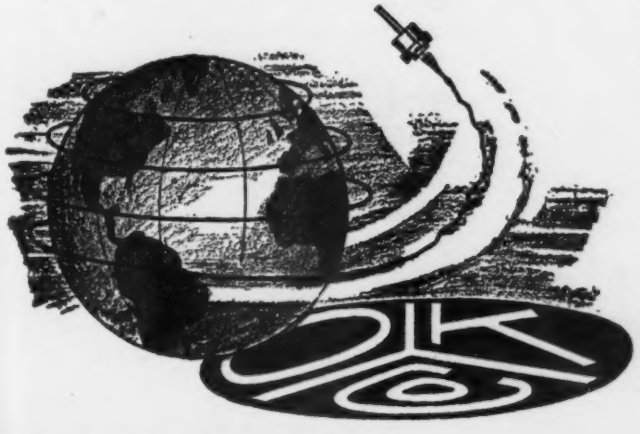
You can have your own rayon staple fiber plant ***producing*** 18 months from now.....

We stand ready to build a complete staple fiber plant for you based on the latest practice and our patented

•Continuous Spinning Process...

We furnish the machinery, the "know-how", the operating staff and 30 years' experience.

SERVICES RENDERED:



STARTING PRODUCTION:

(a) KOHORN Chemists and Engineers, start the plant and bring it into full production.
(b) KOHORN experts help train local labor.
(c) Modern chemical and mechanical processes, installed by KOHORN, hold consumption of raw material and labor to a minimum.
(d) KOHORN engineers co-operate with your sales department in introducing product to the market.

PLANT EXPANSION:

(a) KOHORN'S interest in your plant, after it is turned over to you, continues. Consultation always available.
(b) Our latest patents are put at your disposal when plant expansion is contemplated.

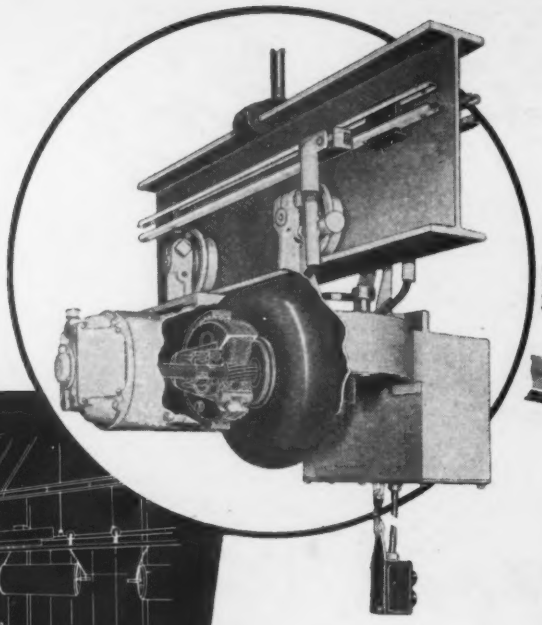
PLANT LOCATION:

(a) Survey on the ground to determine location, man-power, transportation, markets, raw material, power, fuel and water supplies.
(b) Determine size of initial plant, and plan its expansion.
(c) Consultation on types of yarn, denier, packaging, etc.
(d) Estimates for land and building, equipment, and working capital.
(e) Estimate production cost and overhead, sales and profit.

ERECTION OF BUILDINGS AND MACHINERY:

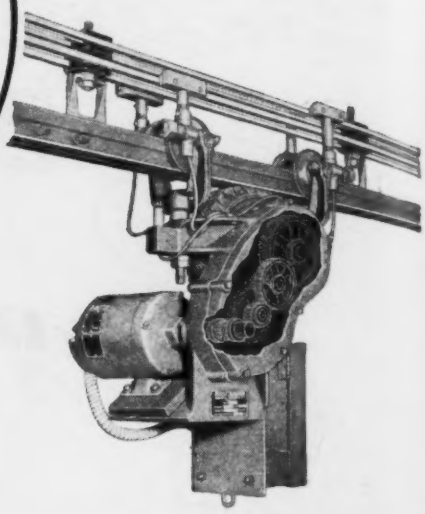
(a) Furnish complete plans for buildings and machinery.
(b) Supply all production machinery and auxiliary equipment.
(c) Send KOHORN engineers to erect plant, install machinery and building equipment.

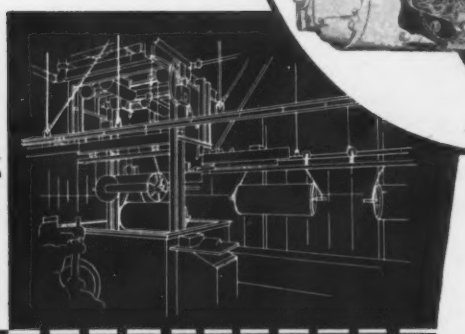
OSCAR KOHORN & CO., LTD.
501 FIFTH AVENUE
NEW YORK, N. Y.



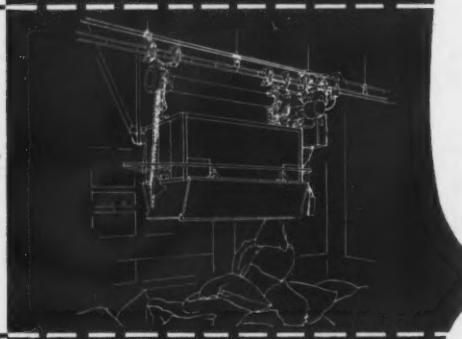
◀ American Planetary Gear MonoTractor

American Spur Gear Mono-Tractor ▼

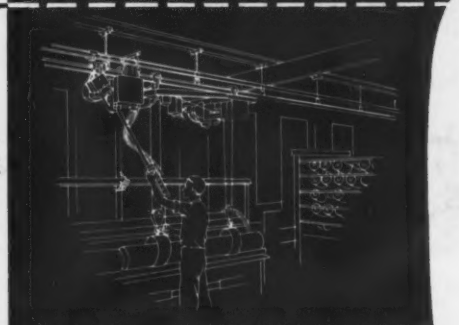




Vertical transfer between floors.



Delivery to fixed stations



Selective dispatch between multiple stations.

Loading and delivering to multiple stations.

Automatic Carriers

FOR OVERHEAD HANDLING

Through the application of simple electrical and mechanical devices, American MonoTractor Units perform automatic operations with extreme accuracy and reliability, saving costly handling labor and supervisory attention.

While unique in many features, such systems are built mainly from standard units. MonoTractors can be applied to carriers operating on any smooth bottom track. An American MonoRail Engineer is available for consultation in every important industrial area.

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THE AMERICAN MONORAIL COMPANY

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• Better loom performance
• Lower maintenance and power costs

The Gulf Lubrication Engineer in the picture (right) is checking loom lubrication in a prominent southern mill.

ARE you putting up with excessive power and maintenance costs for your weave room? Gulf's highly trained lubrication engineers have helped many mills slash these controllable costs, and at the same time improve loom performance.

Why not call in one of these experienced specialists to consult with your operating and maintenance personnel in a further effort to improve your lubrication and reduce your costs? The Gulf Lubrication Engineer will recommend the proper oils and greases for every moving part, and the best methods of application — then co-operate closely with your men to keep lubrication on a sound scientific basis the year around.

Make sure you are getting the benefits of all recent developments in petroleum science. Write, wire, or phone your nearest Gulf office today and ask a Gulf Lubrication Engineer to call.

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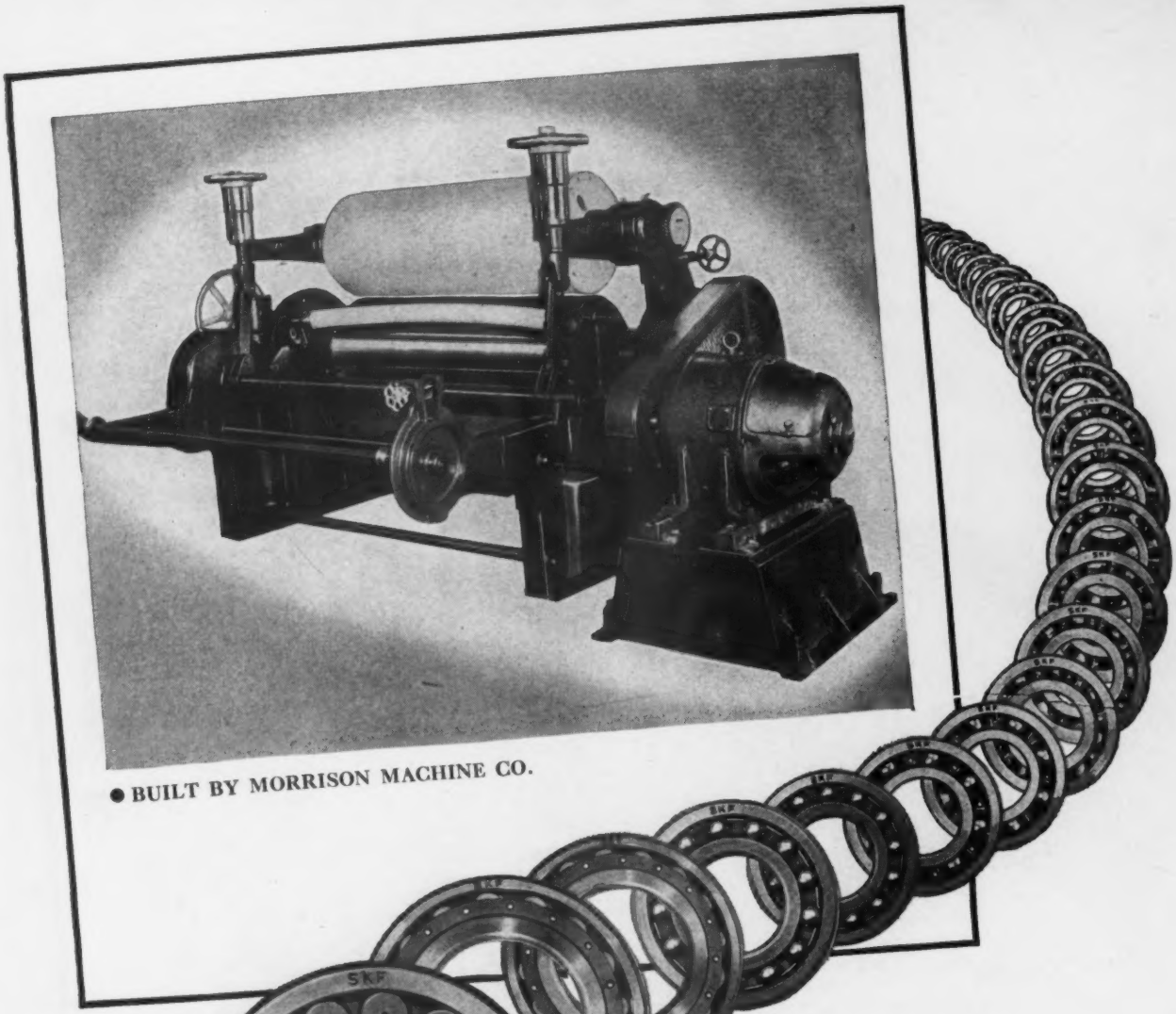
GULF INDUSTRIAL LUBRICATION



● BUILT BY MORRISON MACHINE CO.

SKF
Puts the RIGHT BEARING in the RIGHT PLACE

THE RIGHT BEARINGS FOR 2-ROLL PADDERS

This 2-Roll, 15-Ton, 54″ Face Micro-Set Padder is only one of many machines in the Textile Industry that's doing a highly-accurate job on SKF Bearings. Manufacturers of textile machinery recognize the many outstanding advantages of SKF Bearings. Easily carrying heavy radial and thrust loads without binding, SKF Bearings maintain full capacity, assure equalized load distribution, provide long life, and never require adjustments. In fact, infrequent lubrication is the only attention they need for many years of economical, profitable performance. So whether you build or buy a padder, spinning or twisting frame, cleaner, Sanforizer, slasher or any other textile machinery, check vital moving parts. If they're mounted in SKF Bearings, you're certain of dependable performance. 6189

SKF INDUSTRIES, INC., PHILA. 32, PA.

NO MATTER HOW LONG THEY RUN

They Never Groove

Millions of Dayco Roll coverings have been in service for years. They stay and stay on the job because their surface is so tough it never grooves, hollows out, flattens or distorts. Think how many less ends down this could mean to you in a year if your roll coverings were Daycos.

Their tough surface is only one of many advantages. They are unaffected by hard ends or temperature changes. They are oil resisting, static free, remove more foreign elements from the yarn, decrease flying lint.

Dayco Roll Coverings work with cotton, wool, synthetics or blends. Types are available for revolving clearers, flat clearers or any kind of frame. Write today for complete information.

THE DAYTON RUBBER MANUFACTURING COMPANY
MAIN SALES OFFICES: GREENVILLE, S. C.
FACTORY: WAYNESVILLE, N. C.

HERE ARE IMPORTANT REASONS WHY YOU SHOULD USE DAYCOS

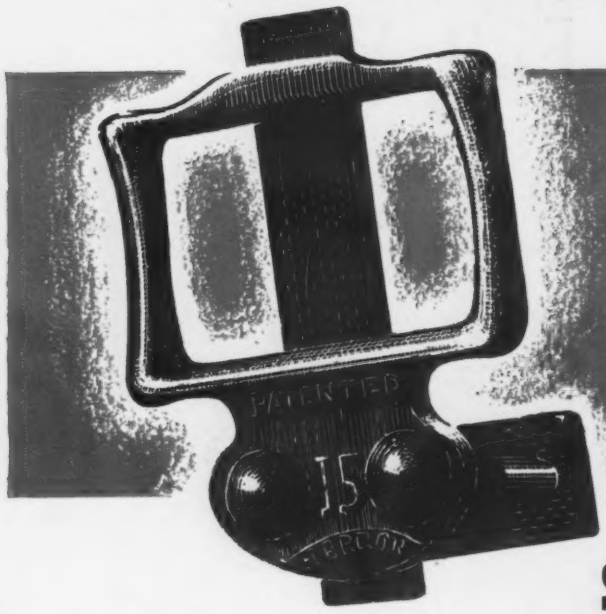
1. Large reduction of ends down.
2. More foreign elements removed from yarn.
3. Specially compounded for uniform wear, lengthening service life.
4. Equally effective for special types of synthetic and synthetic blends of yarn.
5. Decreases flying lint in spinning room.
6. Not affected by temperature changes.
7. Oil resisting and static free.
8. No grooving—less ends down.
9. Easy to apply.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

SETTLE YOUR LUG SUPPORT TROUBLES

WITH



HERRON *Lug Strap* SUPPORT

SAVES STRAPS, PICKER STICKS AND SUPPLIES

The Herron Lug Strap Support is a decided improvement over the conventional type support. Thousands now in use offer ample proof of their dependability and economy. They save you in straps, picker sticks and supplies. Easy to apply and adjustable to the power of your loom.

Furnished with LEATHERS BOLTS & ALL NECESSARY PARTS READY TO APPLY

Moderately Priced Immediate Delivery

Send us your order for a minimum of twelve sets . . . and watch the results. Reasonably prompt shipment assured

(Patent No. 2,140,675)

MANUFACTURED EXCLUSIVELY BY

ACME MACHINE & TOOL CO.

2516 Wilkinson Blvd. CHARLOTTE, N. C. Telephone 4 5633

NO OTHER COMPANY IS LICENSED TO MANUFACTURE THIS DEVICE

"ROCKERHEAD" CALENDER RACKS OR LOGGER HEADS FOR PICKERS

SELF ALIGNING HEAD INSURES
EVEN SEATING OF ROLLERS ON LAP PINS

WILL NOT WEAR ROLLERS CONE SHAPE

10 DAYS DELIVERY

FAFNIR ROLLER EQUIPPED

This device assures more efficient production with a minimum of waste. No more soft nosed laps . . . each lap is firm, being 3 to 4 inches smaller in diameter. Your inquiries are cordially invited.

PATENT NO. 2,018,063

FOR KITSON, SACO-LOWELL,
WHITIN AND POTTER AND JOHNSON PICKERS

MANUFACTURED EXCLUSIVELY BY

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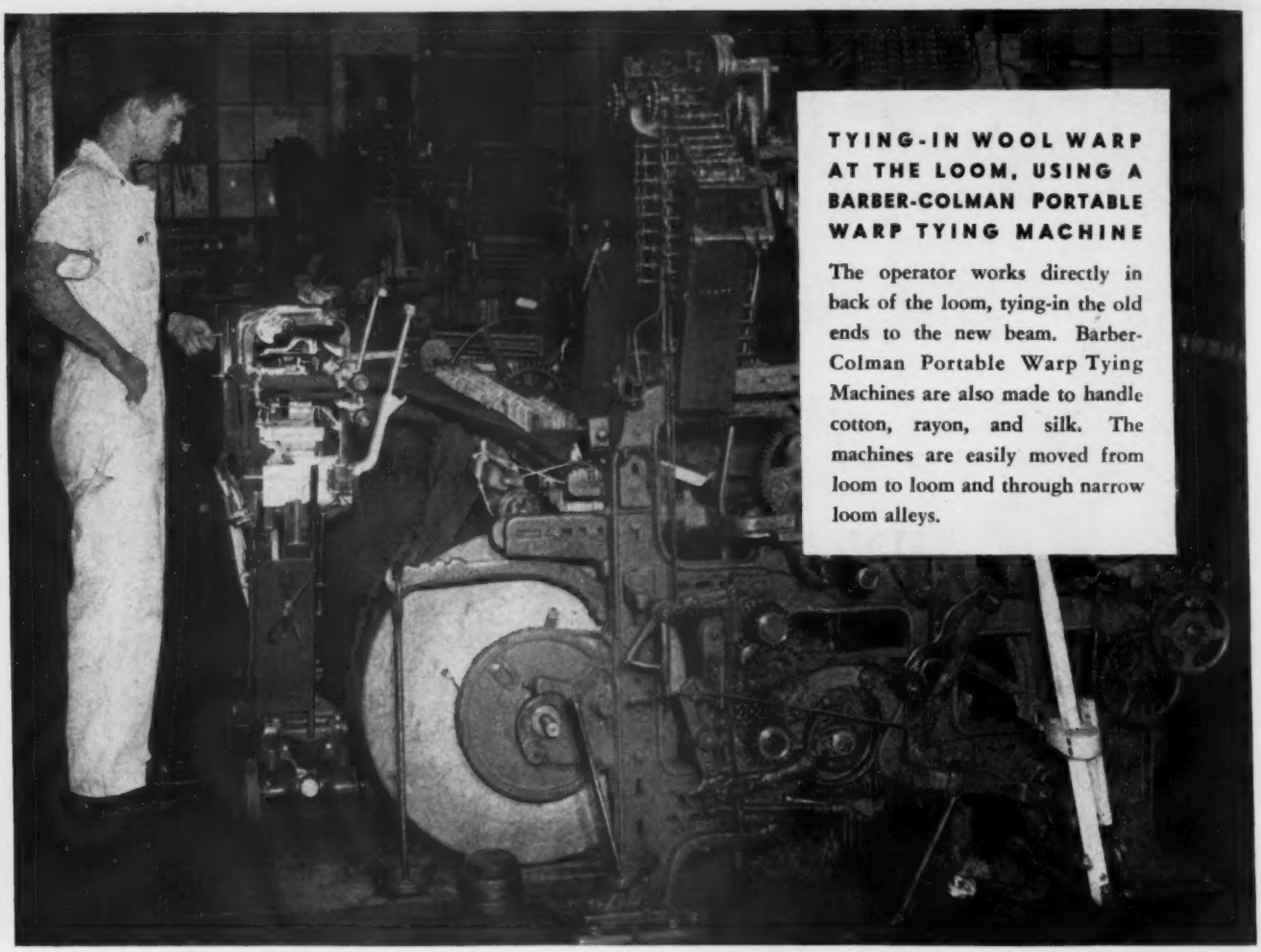
NO OTHER COMPANY IS LICENSED TO MANUFACTURE THIS DEVICE



TYING-IN WOOL WARP AT THE LOOM, USING A BARBER-COLMAN PORTABLE WARP TYING MACHINE

The operator works directly in back of the loom, tying-in the old ends to the new beam. Barber-Colman Portable Warp Tying Machines are also made to handle cotton, rayon, and silk. The machines are easily moved from loom to loom and through narrow loom alleys.

BARBER-COLMAN WARP-TYING IS "ACCEPTED AS STANDARD" IN EFFICIENT AMERICAN MILLS

Portable
WARP TYING MACHINE

In the weave rooms of efficient mills throughout the United States, Barber-Colman machines are daily doing their job of aiding production economy. Their ability to tie-in new warps *at the loom* speedily, accurately, and uniformly means minimum down time for warp replenishment. Since their introduction over a generation ago, Barber-Colman machines have been almost universally accepted as the "standard" method of replenishing warp. Various models are available — in fixed or portable types, and several sizes — to meet the needs of different mill and yarn conditions. Barber-Colman representatives are skilled in analyzing situations and advising the proper machine to meet your requirements. *For economical and accurate warp replenishment — use Barber-Colman Warp Tying Machines.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS • U. S. A.
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

Announcing

A CHANGE FROM

ARIDYE CORPORATION

A Subsidiary of Interchemical Corporation

to

Interchemical Corporation

Textile Colors Division

At the close of business on December 31, 1946, Aridye Corporation, heretofore a wholly owned subsidiary, became a division of its parent company and is now known as Interchemical Corporation—Textile Colors Division.

Customer relationships, policies, management and personnel remain the same, the change being merely one in corporate organization. The Division will carry on the manufacture and sale of Aridye* Pigment Colors and Interchem* Dyes. Pioneering in the application of pigment colors to textiles will continue through an uninterrupted research and development program.

Remember—For full information on the latest developments in pigment colors for textiles, you now write to: Interchemical Corporation —Textile Colors Division, P.O. Box 357, Fair Lawn, New Jersey.

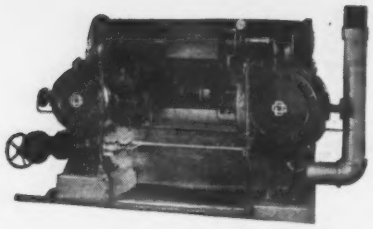
District offices:
Rock Hill, S. C.
Providence, R. I.

*Trade Mark

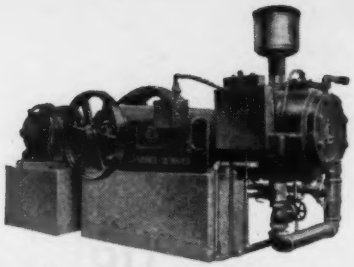
Interchemical Corporation

Textile Colors Division

P. O. Box 357, Fair Lawn, New Jersey



The air cylinders in this Gardner-Denver "HA" Horizontal Compressor are especially designed for highest volumetric efficiency and lowest horsepower requirements. Its duoplate valves are cushioned for high delivery capacity, high compression efficiency and lowest power consumption. The class "HA" compressors are available in capacities from 316 to 2012 cubic feet displacement per minute.



Is dust a problem in your plant? This Gardner-Denver Class "RX" Horizontal Compressor is dustproof. And its special design permits complete water jacketing of all valves, air passages and cylinder heads to remove the heat of compression—increasing efficiency and cutting horsepower. The Class "RX" Horizontal Compressors are furnished in sizes from 89 to 1292 cubic feet displacement per minute.

shopping for EXTRA *value?*

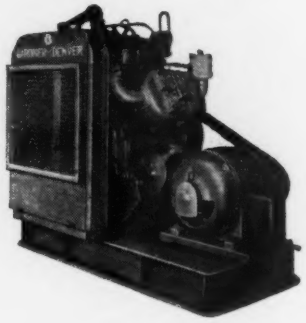
To get your money's worth in air compressors, centrifugal pumps or concrete breakers, look for the *special* features that help you do a better job at less cost. Every Gardner-Denver product on this page has such features—and we'll gladly give you complete information about any one of them. Write Gardner-Denver Company, Quincy, Illinois.

GARDNER-DENVER

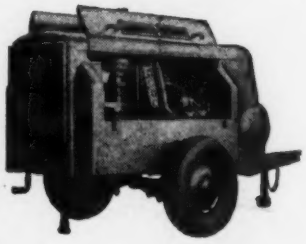
SINCE 1859

Atlanta, Ga.
Birmingham, Ala.
Boston, Mass.
Hazleton, Pa.
Knoxville, Tenn.
New York, N.Y.
Philadelphia, Pa.
Pittsburgh, Pa.
Washington, D.C.

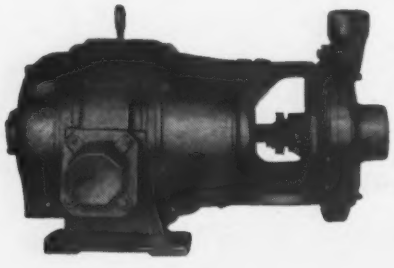
In this Class "WB" 2-stage Vertical Compressor, Gardner-Denver engineers departed from conventional air compressor design to give you more volumetric efficiency with greater capacity. "WB" Compressors—furnished in capacities from 142 to 445 cubic feet displacement per minute—have efficiencies comparable to those of large horizontal compressors.



Here's a modern portable air compressor that's mighty handy to have around the plant! Complete water jacketing of its cylinders means dependable operation under constant load—cooler air—lubricating oil economy. Gardner-Denver "Portables" are furnished in sizes to suit every need.



In this Gardner-Denver Close Coupled Centrifugal, see how pump and motor are combined to form a complete, compact unit. These pumps can be installed in any position and are designed for capacities up to 250 gallons per minute, and heads up to 250 feet.



Plant alterations go forward more quickly when your men use this new Gardner-Denver Paving Breaker. The B87 is easier to handle than conventional types—and has a special safety latch which prevents air throttle from being opened when it is moved from place to place. Easily convertible to a sheeting driver.

HYCAR AMERICAN RUBBER LATEX...

a new material for impregnating and coating fabrics, fibres, and threads

HYCAR latex, when used as a coating or impregnant for even inexpensive materials, imparts many desirable properties not easily obtained with other coatings and impregnants.

For example, high resistance to oils, chemicals, abrasion, and flexing—to name a few—are added in very desirable degrees by HYCAR latex, used as an impregnant or a coating. And HYCAR-impregnated materials may then be coated with any one of a number of other materials to impart additional properties.

All of this can be done, safely and simply, with HYCAR latex, because it's an inherently easy and safe material to handle. No vulcanization is required. Normal drying times are used. No explosive solvents need be handled. Nor is there any need for cumbersome and costly solvent recovery systems.

We would be glad to work with you on any problems relating to the use of HYCAR American rubber latex. For more information write Dept. HL-1, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio.

Hycar
Reg. U.S. Pat. Off.
American Rubber

B. F. Goodrich Chemical Company
A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE brand chemicals

SPRAY YARN ON EVERY SIDE . . . AND SAVE FROM EVERY ANGLE

with a

NIAGARA TWIST-SETTER

OF RUSTPROOF, DURABLE MONEL*

Chances are, you've often wondered whether anyone would ever devise a yarn conditioner that would—

- **wet bobbins uniformly**
- **protect yarn from rust and corrosion**
- **increase production**
- **reduce operating and maintenance expense**

"Now there's a conditioner that does all these things," says SEYDEL-WOOLLEY & COMPANY, 748 Rice St., N.W., Atlanta, Ga. "And here it is—our NIAGARA TWIST-SETTER."

Made of Monel* to provide long-term resistance to corrosion and complete freedom from rust, the *Niagara* has no moving parts. The bobbins themselves roll, tumble and turn as they drop from one baffle to the next in the spray chamber. (See diagram.) Twist-setting solution, coming from four accurately-placed spray nozzles, hits the bobbins on every side.

Self-contained, and having a rated capacity up to 3,500 pounds an hour, the *Niagara* occupies less than 11 square feet of floor space, and requires no foundation.

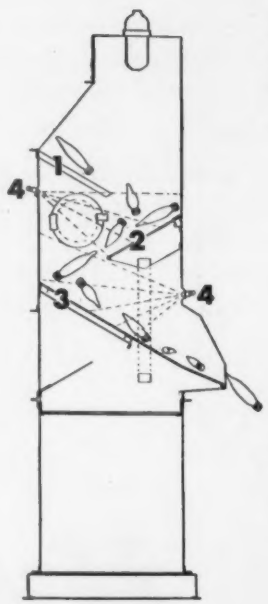
Seydel-Woolley executives tell us that "operating costs vary between ten and twenty cents per thousand pounds of yarn; maintenance costs are less than $5.00 per machine per year."

As you might expect, the *Niagara's* Monel construction is an important factor in holding maintenance costs down. For Monel is a strong, tough and exceptionally durable nickel alloy. Its surfaces stay smooth and hard, even after prolonged contact with salt, acids, alkalies and dye liquors.

Monel brings to Niagara Twist-Setters—as it does to so many types of textile equipment—freedom from rust, superior resistance to corrosion and wear . . . *plus* long, trouble-free life.

*Reg. U. S. Pat. Off.

ADDS A PERMANENT MOISTURE REGAIN at the same time it sets the twist. The *Niagara* is a rugged, compact machine. Made of Monel, and having no moving parts, it is economical to maintain. *Photo courtesy of Seydel-Woolley & Co., Atlanta, Ga.*



SIMPLE, LONG-LIFE CONSTRUCTION. Inclined Monel baffles in the Niagara Twist-Setter give bobbins a rolling, turning motion. Use of Monel protects yarn from damage by rust, or from corrosion caused by water supply or penetrating agents.

1. Entering Baffle (Monel)
2. Monel Middle Baffle Grill
3. Monel Bottom Baffle Grill
4. Spray Nozzles

THE INTERNATIONAL NICKEL COMPANY INC., 67 Wall Street, New York 5, N. Y.

Monel

FEDERAL Type MO 4

Thermal Magnetic

2 way Circuit Protection

Thermal

Magnetic

MULTI-BREAKER

Magnetic trip operates in a fiftieth of a second or faster, even on minor shorts. *Thermal* bi-metal element provides time-delayed tripping on moderate overloads. That's *THERMAL-MAGNETIC* Protection . . . built into Federal's new Type M04—the smallest, lowest-priced, most efficient Multi-breaker ever produced.

● 4-pole range ● For flush or surface mounting ● Only 5 1/16" x 7 3/16" x 2 7/8" ● Wire ratings 15, 20, 30 amp. ● Ideal wherever two lighting or appliance circuits and a small electric range circuit are needed . . . or where four lighting or appliance branch circuits are needed.

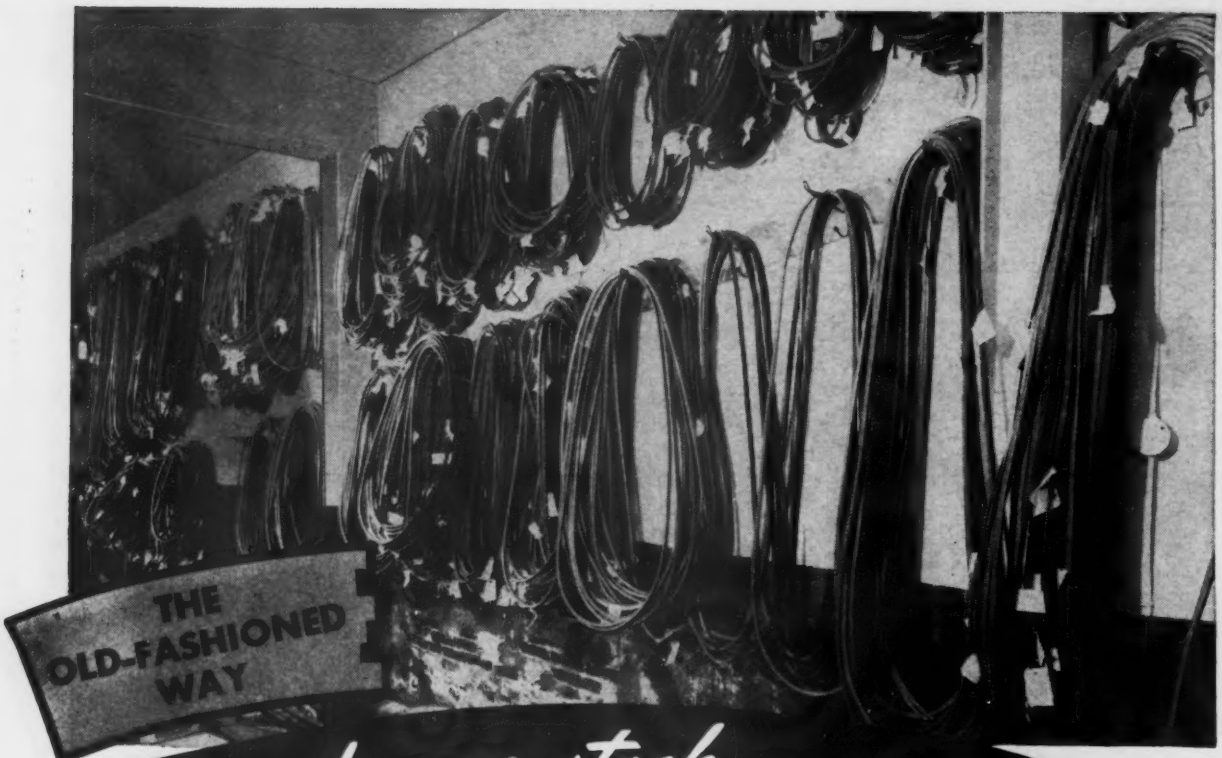
FEDERAL ELECTRIC PRODUCTS COMPANY—Executive Offices: 50 Paris Street, Newark 5, New Jersey. Plants: Hartford, Connecticut; Newark, New Jersey; St. Louis, Missouri.

Federal NOARK

Write for Bulletin No. 154

Federal NOARK
INDUSTRIAL CONTROLS

FEDERAL ELECTRIC PRODUCTS COMPANY, MANUFACTURERS OF A COMPLETE LINE OF ELECTRICAL PRODUCTS INCLUDING: MOTOR CONTROLS, SAFETY SWITCHES, CIRCUIT BREAKERS, SERVICE EQUIPMENT, PANELBOARDS AND SWITCHBOARDS



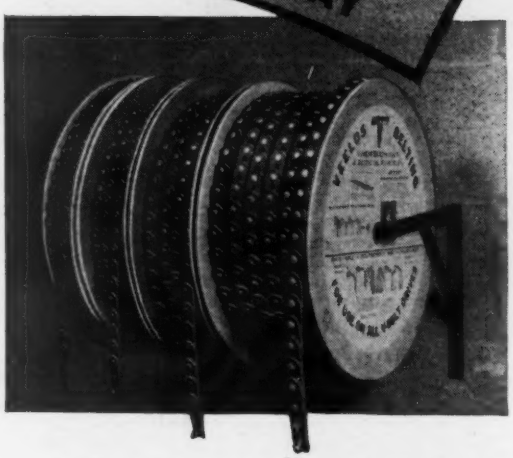
How do you stock your V-belts?

WHY stock a costly and confusing assortment of endless V-belts when you need only a few reels of Veelos, the link V-belt? With only four sizes of Veelos you can make up 316 standard sizes of endless belts. With Veelos, storing spare sets of belts for individual drives becomes outmoded. Expensive, wasteful belt inventories are eliminated . . . deterioration of spare V-belts is ended.

Veelos on reels assures a neat, orderly stockroom. Space is saved. Paper work is reduced. Any desired length of V-belt is always available. Veelos is made in all standard widths, fits all standard grooves, is packaged on standard 100-foot reels.

Veelos sales engineers are located in all principal cities; over 300 distributors throughout the country.

THE MODERN WAY



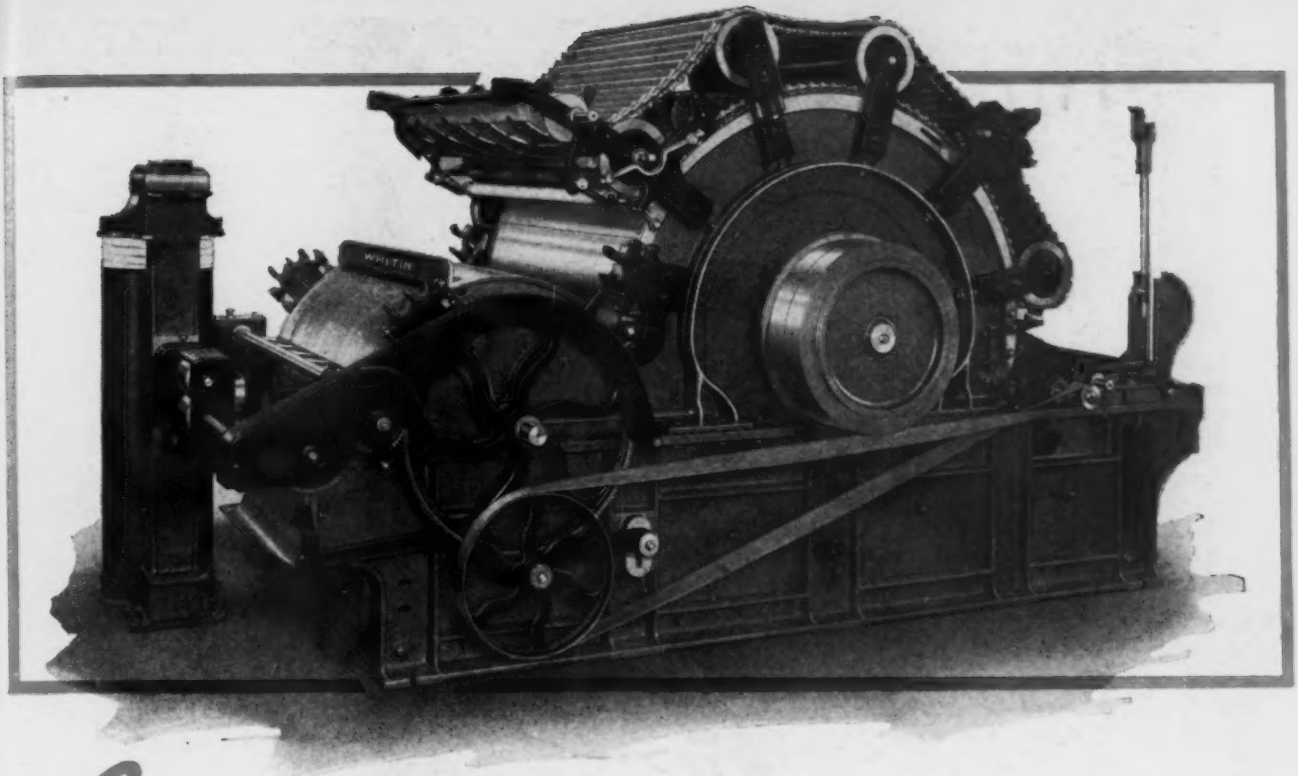
Just four reels of Veelos will provide 316 sizes of endless V-belts.

VEELOS
THE LINK
V-BELT

Adjustable to any Length
Adaptable to any Drive

MANHEIM MANUFACTURING & BELTING CO.
MANHEIM, PENNSYLVANIA

Tested • Proved • Adopted . . . by American Industry



Announcing...

THE NEW WHITIN MODEL "L" COTTON CARD

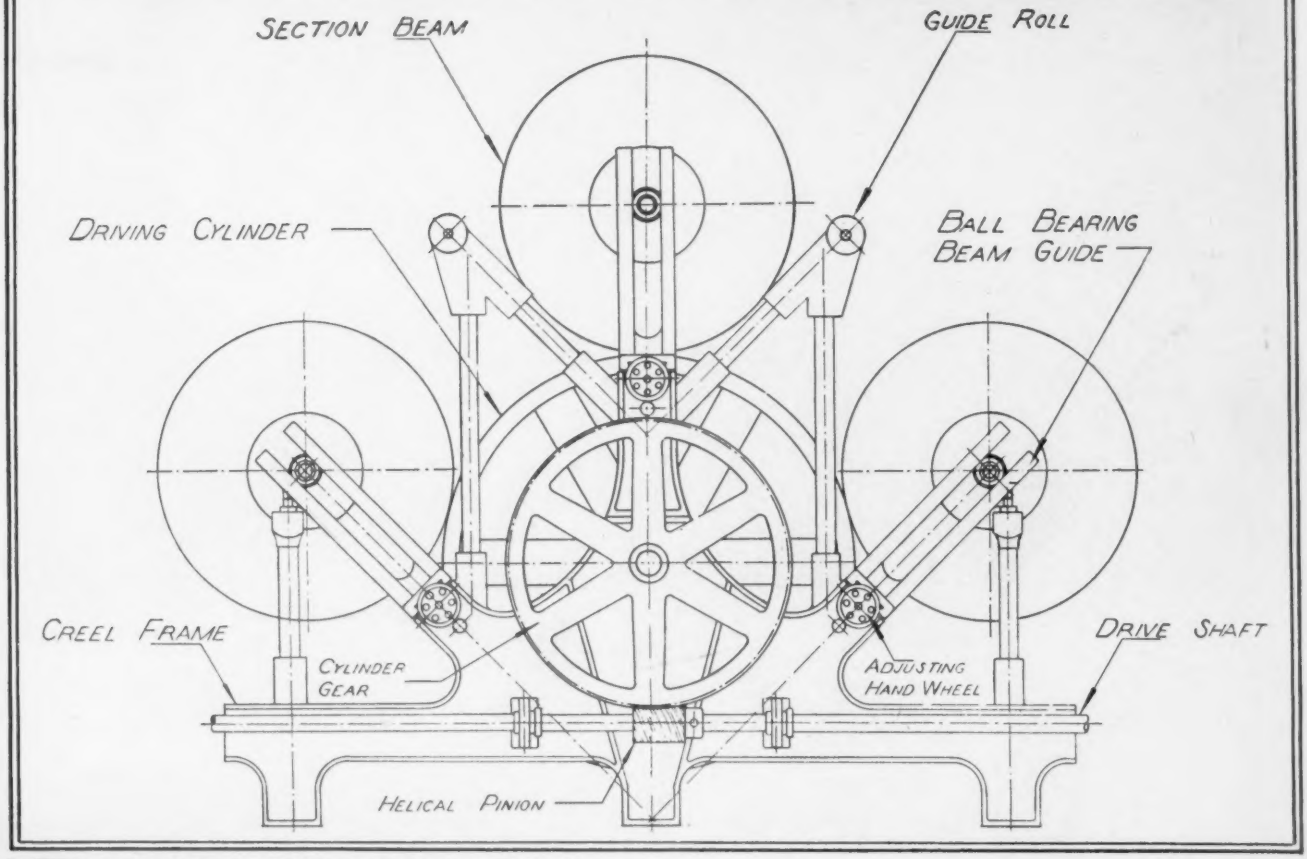
This new model Revolving Top Flat Card for cotton has been completely redesigned to incorporate many important improvements. Outstanding among these are:

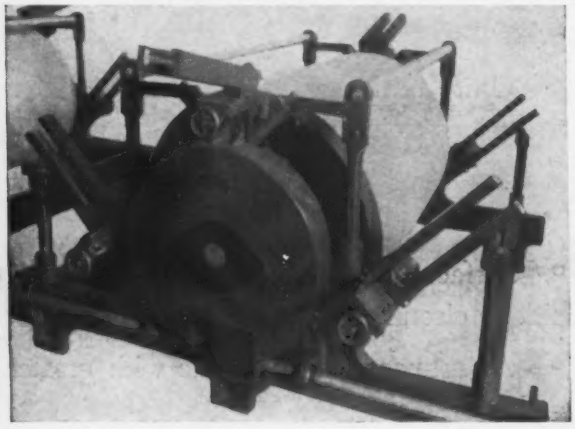
- Card frame, cylinder bearing pedestals, and arches have been strengthened to provide greater rigidity which is especially beneficial in maintaining card settings.
- Improved Top Flat Drive, Spiral Brush Drive, Coiler and Calender Drives are provided.
- Feed Roll weighting has been simplified, and the Feed Plate has been strengthened to resist pressure deflection.
- Oilite bearings have been provided in many locations to insure better lubrication.
- All gears have cut teeth for quieter operation.
- Surfaces and Contours have been restyled to facilitate cleaning.
- Adjustments can be made with greater ease and convenience.
- These features and many others combine to make this model a smoothly operating, highly efficient Card. We believe it would improve the operation and efficiency of your Card Room.

Catalog available on request.
Mail requests to Department A3

Whitin MACHINE WORKS
WHITINSVILLE • MASSACHUSETTS
CHARLOTTE, N. C. ATLANTA, GA.

POSITIVE-DRIVE SLASHER CREEL





Designed to

SPEED PRODUCTION
LOWER OPERATING COSTS
CUT WASTE

1. A positive variable speed drive synchronizes the driving cylinder surface speed with the size rolls.
2. Yarn is drawn from every beam at the same rate, delivered to the size vats, free of excessive tension, stretch or strain.
3. Stretch can be regulated as desired.
4. Starting and stopping of creel is smooth and without jerk—eliminating breakouts, kinks and loose ends.
5. Beams with the same amount of warp will all empty at the same time—reducing waste.
6. Creel operates satisfactorily at all speeds.
7. Each unit has one driving cylinder capable of handling 3 section beams. As many units as desired can be coupled together.
8. Ruggedly constructed for long life—ball bearings throughout.
9. Economical to operate—low power consumption and maintenance required.

Manufacturers:

SPECIAL TEXTILE MACHINERY

SLASHER EQUIPMENT

TEXTILE REPAIR PARTS

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

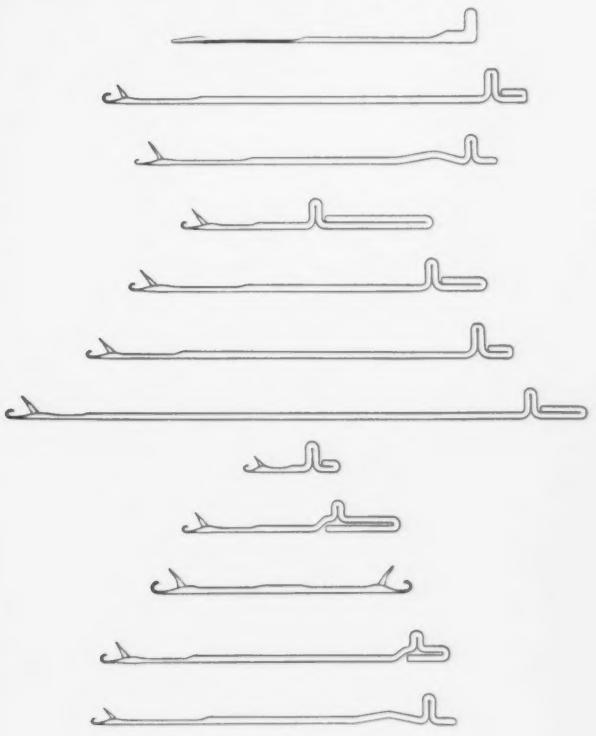
WEST POINT, GEORGIA

know your NEEDLES *for* KNITTING BATHING SUITS

THERE ARE more than 10,000 types of modern machine-made needles in the Torrington line. Illustrated here are a few of the types widely used for producing men's and women's swimsuit fabrics.

Whatever *your* knitting requirements, you may be sure that every Torrington Needle is precisely controlled for uniformity of dimension, temper and finish to assure dependable performance and long service. Insure the fine reputation of *your* products by using Torrington Needles.

Due to the present high demand for Torrington Needles, some of the Needle Types illustrated may not be available for immediate shipment from stock.



THE TORRINGTON COMPANY

Torrington, Conn., U. S. A. • Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. • Boston St. Louis • Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Avenue, Los Angeles 37, Calif.

There's a **TORRINGTON LATCH NEEDLE** for every type of Knitting!

℞ for long life...

in anti-friction bearings, proper attention to lubrication is essential. With Torrington Needle Bearings efficient lubrication is almost automatically assured.

A drop or two as required...

may be the "prescription" for your application and often no additional lubricant is needed after the initial installation. For in Torrington *Needle* Bearings the lubricant *lasts* for a long period. Because the turned-in lips of the retaining shell provide a natural reservoir for oil or grease, an *extra margin* of safety is provided. This is another Needle Bearing feature that is contributing to their record of long service life and low in-use cost.

THE TORRINGTON COMPANY

TORRINGTON, CONN. SOUTH BEND 21, INDIANA

Offices in all principal cities

TORRINGTON BEARINGS

• NEEDLE • SPHERICAL ROLLER • STRAIGHT ROLLER • TAPERED ROLLER • BALL •

We'd have no wood at all . . .
if it weren't for *decay*

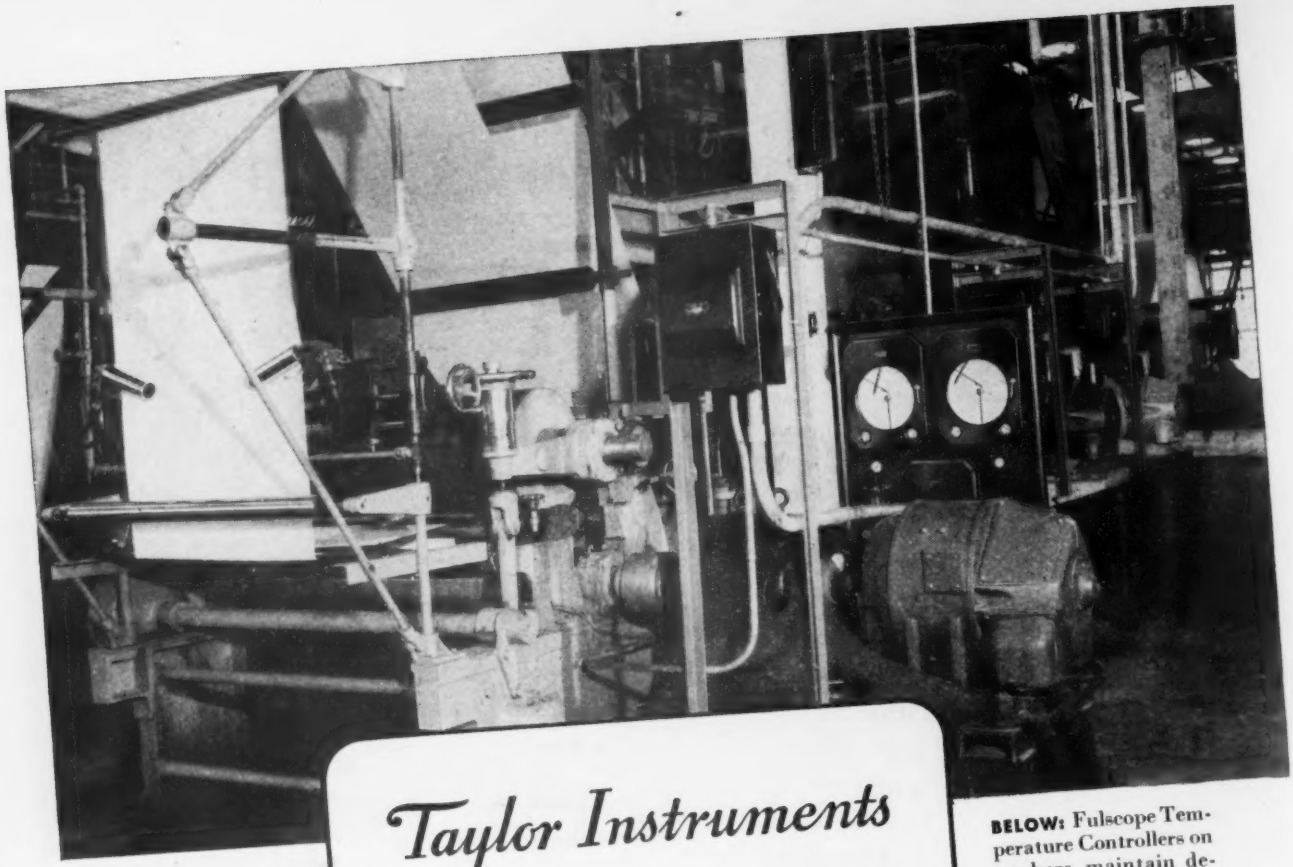
No matter how it seems, decay isn't *always* a villain. As Harry D. Tiemann, senior wood physicist at the U. S. Forest Products Laboratories said, "Think what a forest would be like if wood did not decay. As trees were blown down by wind and felled by ice storms and fire, such an accumulation of jackstraws would occur in a few years as to make the forests impassable . . . Fire would no doubt enter periodically . . . which would soon exterminate the forest completely."

Decay may be a good servant . . . but it is a bad master. It does almost incalculable damage to structures . . . *and the tragic part is that this loss can be largely avoided.* Koppers pressure-treatments can fortify wood against this enemy, as well as against termites, marine borers, acid attack and fire. You'll find the complete story on treatments available, and where pressure-treated wood is serving and saving, in our book "Economical and Permanent Construction with Pressure-treated Wood." Ask for a copy.

K
KOPPERS

PRESSURE-TREATED WOOD

KOPPERS COMPANY, INC.
Pittsburgh 19, Pa.



ABOVE: Instrument panel controls temperature in the dual Williams unit, and temperature and level in dye pad box.

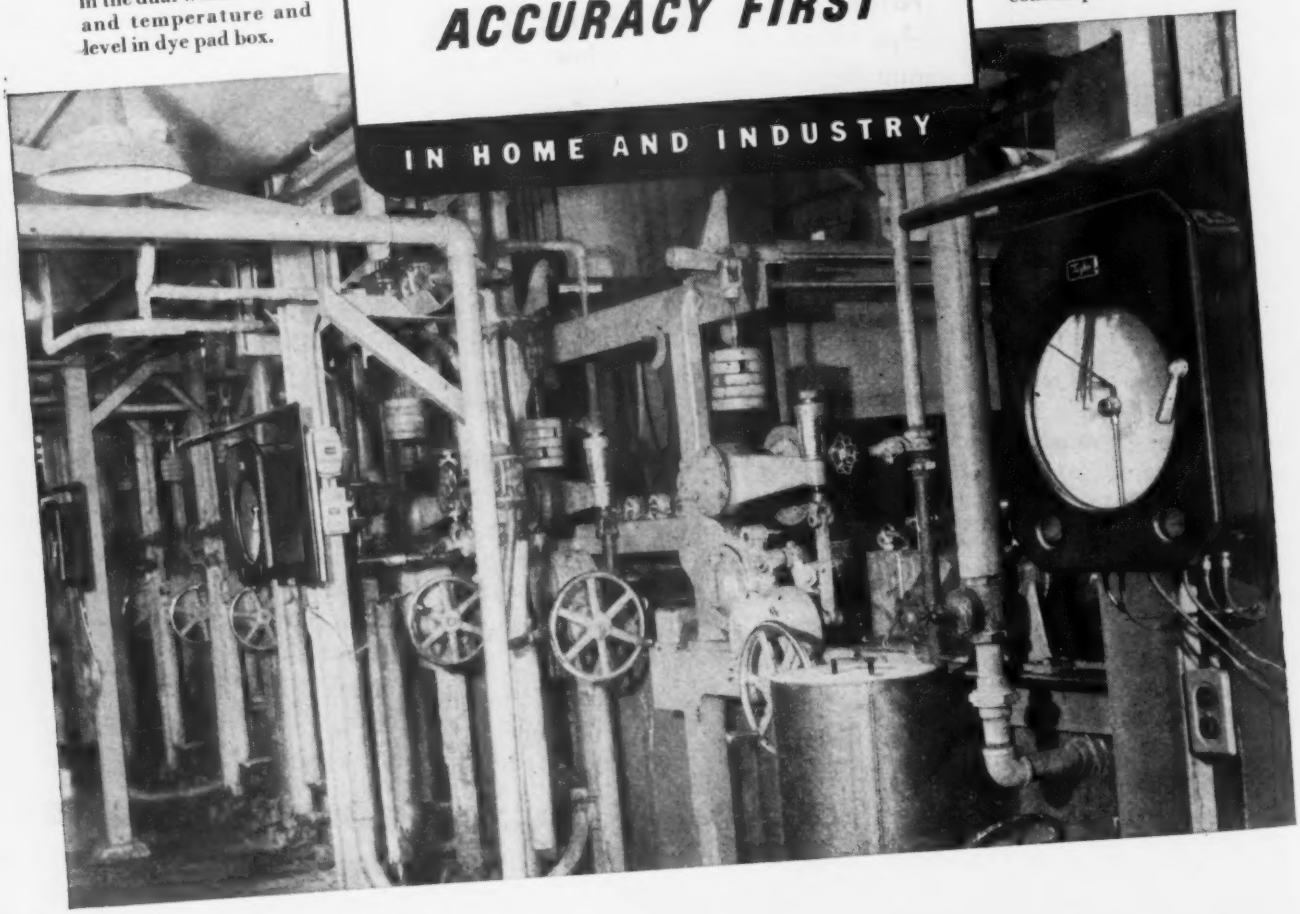
Taylor Instruments

MEAN

ACCURACY FIRST

IN HOME AND INDUSTRY

BELOW: Fulscope Temperature Controllers on washers maintain desired temperatures and assure minimum steam consumption.

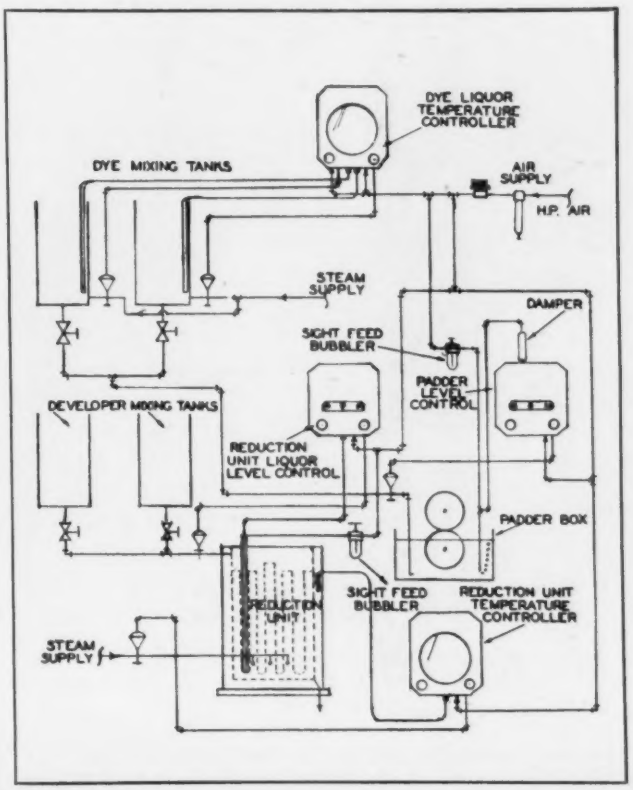


New Taylor-Controlled Continuous Dye Unit Assures

UNIFORMLY HIGH QUALITY at MINIMUM COST

THE Taylor Instruments you see here put the personal touch into this whole continuous dyeing operation in one of the world's largest textile mills. Development of dyed cloth takes place as it is fed in and out of a number of baffles within the Williams Dye Unit. And here's how Taylor Accuracy guides the process:

1. Close control of temperature and liquid level in dye pad box. This helps to assure uniformity of shade, and minimum dye consumption due to prevention of overflow. In fact, this latter feature can save the cost of the controller in a relatively short time.



2. Individual temperature control on dual Williams units gives complete flexibility for different types of dyeing.

3. Temperature control of dye liquor in dye mixing tanks can be included as shown in sketch below.

4. Controls on washers maintain desired temperatures and assure minimum steam consumption.

REMEMBER: Taylor Control Systems are applicable not only to the Williams Dye Unit—but to any type of continuous dyeing unit; also to package dyeing, piece dyeing, hosiery dyeing—and so on through the book. All draw this Taylor challenge: Show us a method of dyeing and we'll show you how Taylor Controllers can run it automatically.

MORAL: Let a Taylor Control System revive your dyeing profits! When you're ordering dyeing equipment, specify "Taylor-Equipped As Usual" or ask your Taylor Field Engineer. Taylor Instrument Companies, Rochester, N.Y., and Toronto, Canada.

▼ ▼ ▼

Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.

For DAY IN, DAY OUT

HEAVY-DUTY SERVICE

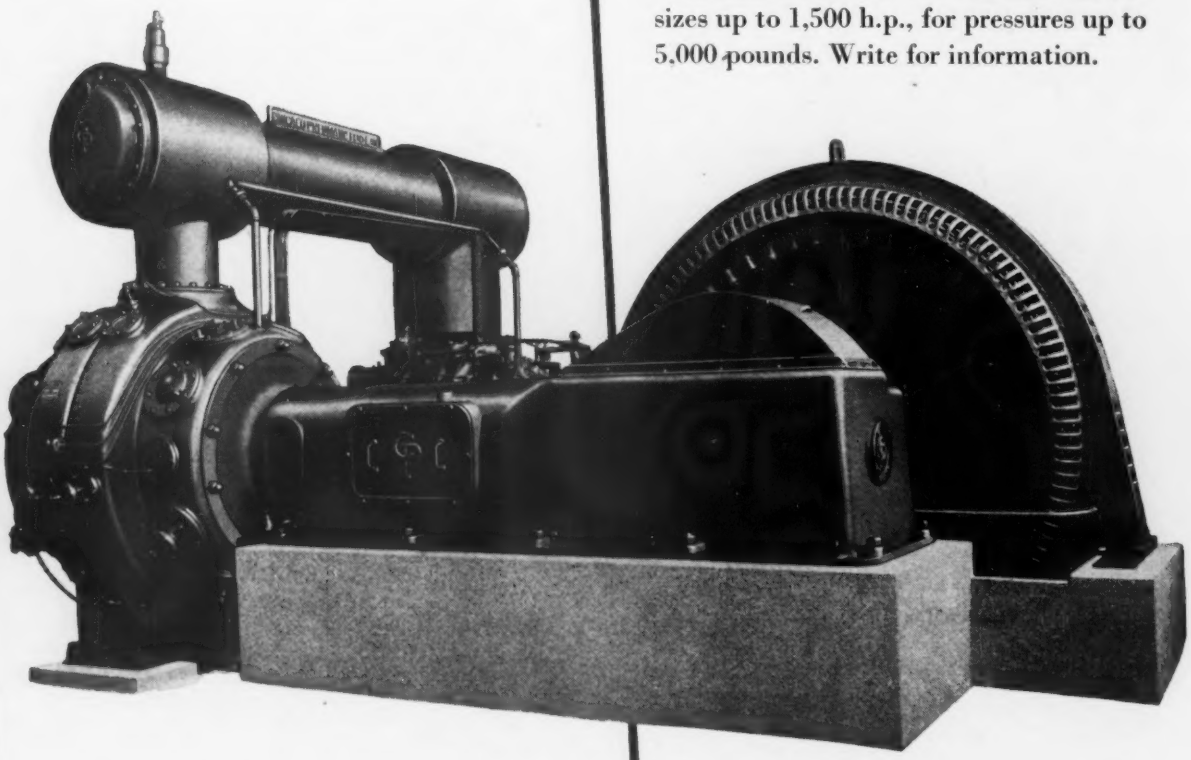
•

O-CE COMPRESSOR

Ruggedly built and conservatively rated, the CP Class O-CE motor-driven Compressor meets every requirement for continuous, heavy-duty operation, with low power consumption.

High efficiency and dependability result from its quick-acting Simplate valves —streamlined air passages—multi-step capacity regulation—thoroughly effective intercooling and water jacketing and efficient lubrication.

The CP Class O-CE Compressor is of the horizontal, double-acting, water-cooled type, with direct-mounted synchronous motor drive. It is furnished in sizes up to 1,500 h.p., for pressures up to 5,000 pounds. Write for information.



CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

HUNT SPREADERS ALLOW HIGHER SPEEDS....GIVE GREATER STABILITY

WEAVING PRACTICES, including "Maintenance, Cleaning, and Bracing of Looms," occupied an important place on the program of the recent fall meeting of the Textile Operating Executives of Georgia, held in Atlanta, Oct. 12th.

Bracing, characterized by Hunt Spreaders, came in for generous praise. Figures gathered from operation of many mills, as reported in COTTON, November 1946, showed that:

"60-inch E-Model looms after bracing gave 104.8% efficiency compared with unbraced looms. Speed of the braced looms averaged 149 ppm. and regular looms 125 ppm. on the same test.

"Extra bearings were placed on looms in another mill, with a smoother running loom and less trouble resulting. The looms were not speeded, but were enabled to operate on heavier goods. This change on 40-inch E-Model looms, running 160 ppm. lowered seconds and increased the production without speeding.

"Other mills also reported lower maintenance costs, and smoother operating looms by bracing.

"Other experiences were related concerning 28-inch E-Models, 40-inch E-Models and 62-inch Model D looms. The 28-inch loom speed was increased from 147 to 176 ppm.; 40-inch from 143 to 167 ppm., and the 62-inch from 128 to 149 ppm. Tests indicated that the looms ran smooth enough at these speeds."

The foregoing reports from Georgia Textile Executives are typical. Other users of Hunt Spreaders from Maine to Texas say they get better cloth, higher production, reduced vibration, lower maintenance costs, and uniformly smoother performance in weave rooms.

To learn more about the benefits you can get from an installation of Hunt Spreaders, write or wire today for detailed information.

Specify the Original, Patented

Hunt SPREADERS

• ADD YEARS TO LOOM LIFE •

Hunt Textile Equipment is Manufactured and Distributed by

MOUNTAIN CITY FOUNDRY & MACHINE CO., GREENVILLE, S. C.

COCKER'S LINKS

in

Cocker Machines cover every step in Warp Preparation. Because Cocker engineers specialize in this important field and are constantly in touch with the newest requirements in the industry, you profit when you use Cocker equipment for all of your warp preparation operations.

You will find that Cocker Creels, Warpers, Sizers, Beamers, Gassing Machines, Dyeing Machines have all of the most modern features and combine ruggedness, accurate control and high speed in the most efficient manner.

One LEADER

This is the **Cocker High Speed Section Beam Warper** with Magazine Cone Creel and Electric Eyeboard Stop Motion

Rugged Construction—Automatic Counter Clock
Accurate Push Button Control—Convenient to operate and maintain and many other features

COCKER MACHINE and GASTONIA,

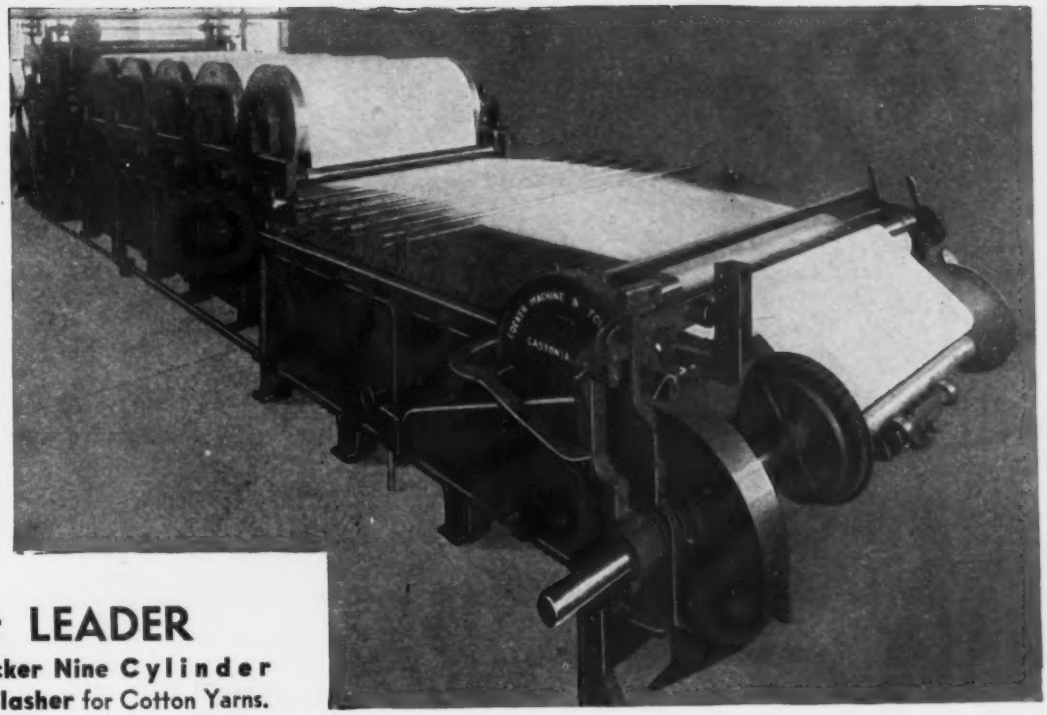
WORLD'S LARGEST DESIGNERS AND BUILDERS OF

beamers

gassing machines

dyeing machines

your PRODUCTION CHAIN



Another LEADER

This is the **Cocker Nine Cylinder High Speed Slasher** for Cotton Yarns.

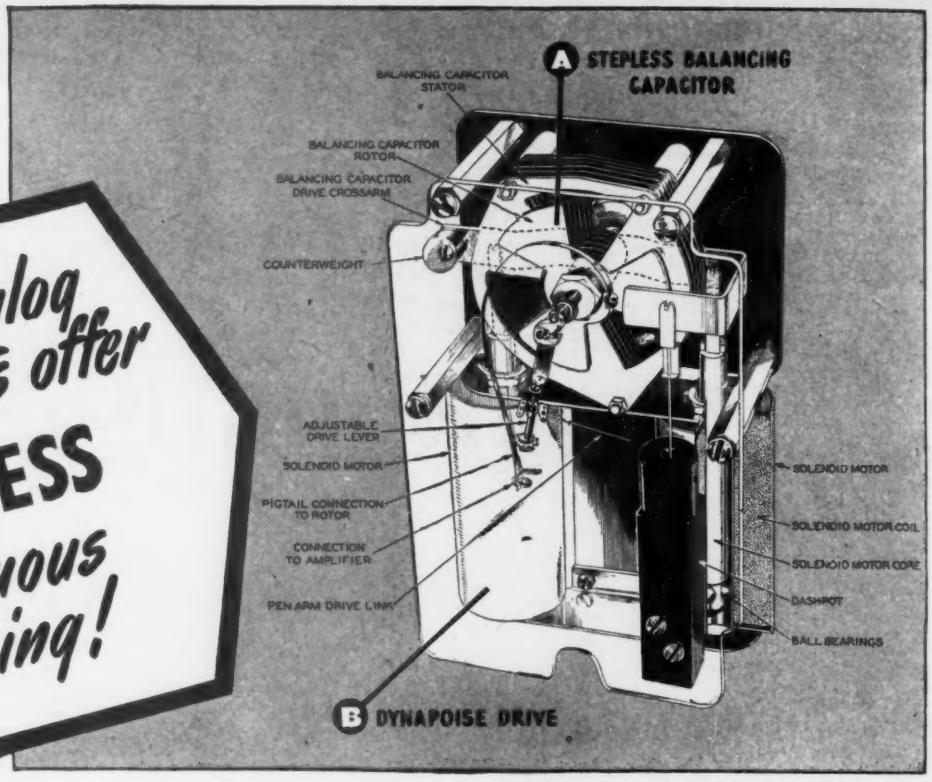
Finger Tip Stretch Control
Size Temperature and Level Control
Cut Marker and Cut Indicator
Compensating Loom Beam Drives

Push Button Control
Graduated Drive
Rugged Construction

The machines illustrated on these pages are part of the complete Cocker Line of Warp Preparatory Machinery. For full information on the fine Cocker Creels, Warpers, Sizers, Beamers, Dyeing Machines, Gassing and other machines, write or wire us.

FOUNDRY COMPANY
NORTH CAROLINA

COMPLETE WARP PREPARATORY EQUIPMENT.



Only Dynalog Instruments offer STEPLESS continuous balancing!

. . . AND HERE'S THE MEASURING UNIT THAT PRODUCES IT

Of all the unique improvements featured in the new *Foxboro Dynalog Controller*, the Dynapoise Balancing Unit is by far the most revolutionary. It is the heart of the Dynalog principle . . . providing electrical movement and stepless balancing in their simplest possible forms. Only motions of small magnitude are involved. There are no complicated, or delicate mechanisms to wear or get out of order. The unit is ruggedly constructed and thoroughly protected.

The new Foxboro Dynalog Controller offers the proven advantages of both the Foxboro Dynalog Recorder and the new M-40 Controller. It has the absolutely continuous sensitivity and instantaneous response of the Dynalog principle plus the dependably-accurate control feature of *Permaligned* Construction found in the M-40 Controller.

Investigate the advantages of this Dynalog Electronic Controller for processes in your plant. Resistance bulb controllers are available now . . . thermocouple type, soon. Write for Bulletin 397. **The Foxboro Company, 84 Neponset Ave., Foxboro, Mass., U. S. A.**

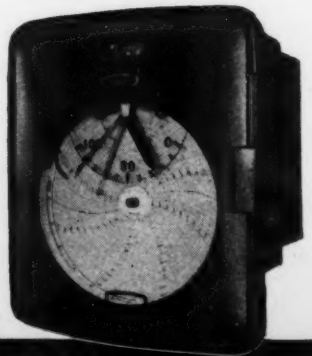
A — STEPLESS BALANCING CAPACITOR . . . a simple, rotating variable air capacitor provides friction-free, completely continuous balancing. No slidewire — no moving or intermittent contacts.

High Sensitivity . . . permanent positive balancing action on bridge unbalances of less than 15 micro-volts.

B — DYNAPOISE DRIVE . . . a powerful, poised, double-solenoid type device, directly coupled to balancing capacitor, moving only when instrument is rebalancing. No rotating motor with reducing gears. No brushes or bearings.

The Dynapoise drive with its short stroke eliminates mechanical reduction and permits instantaneous response to changes in measured variable. No fast-moving parts to stop and start. Only six moving parts including all linkage and pen arm. Each solenoid core has 3 ball bearings at the bottom to minimize friction with sides.

HIGH BALANCING SPEED . . . 3 seconds for full travel of pen or pointer.



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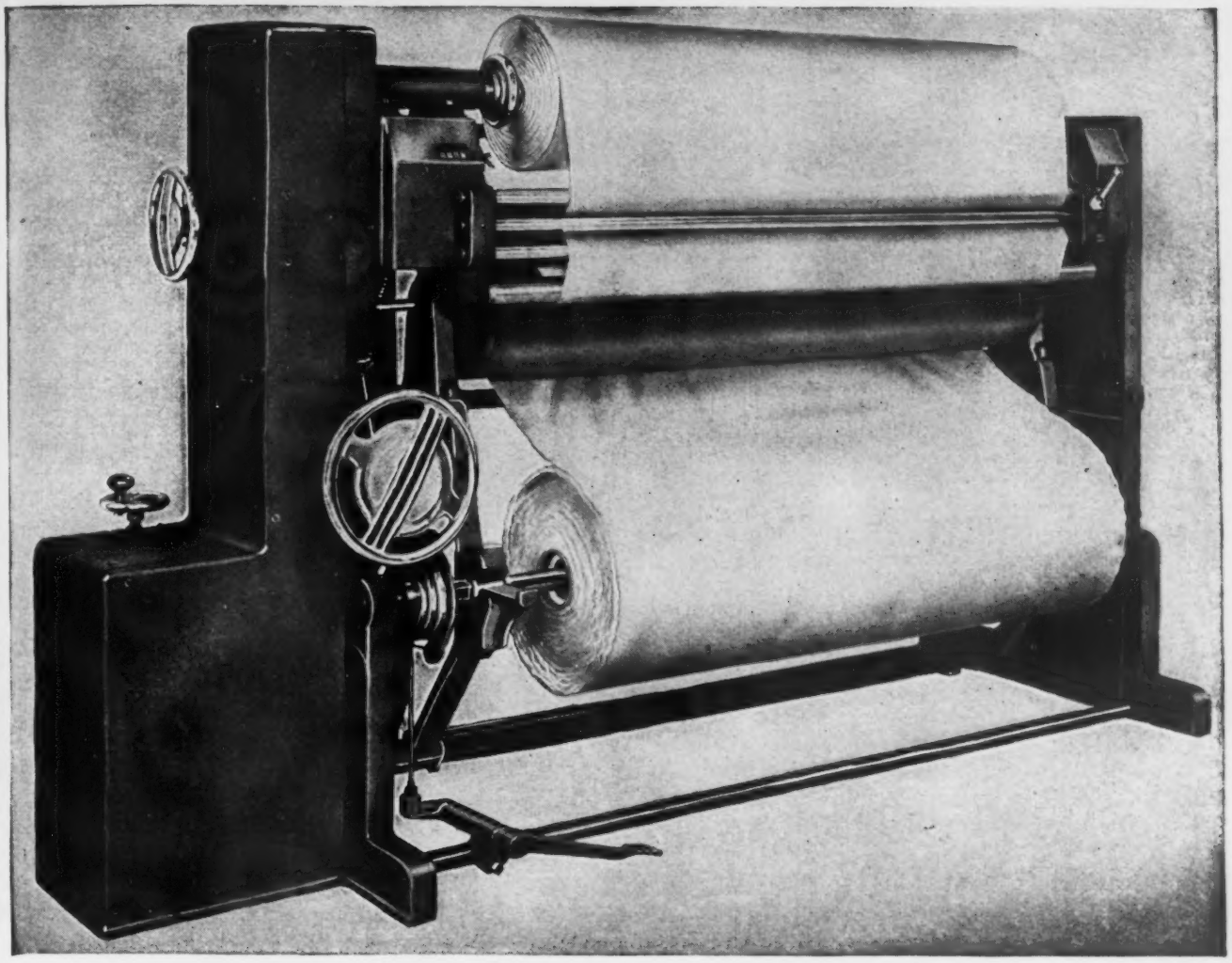
ELECTRONIC INSTRUMENTATION



TIME TESTED - NOW EVEN BETTER

This Van Vlaanderen Tubing Machine has done excellent work through the war years. Now it has been improved to process up to 250 yards a minute and to take larger diameter rolls on tubes.

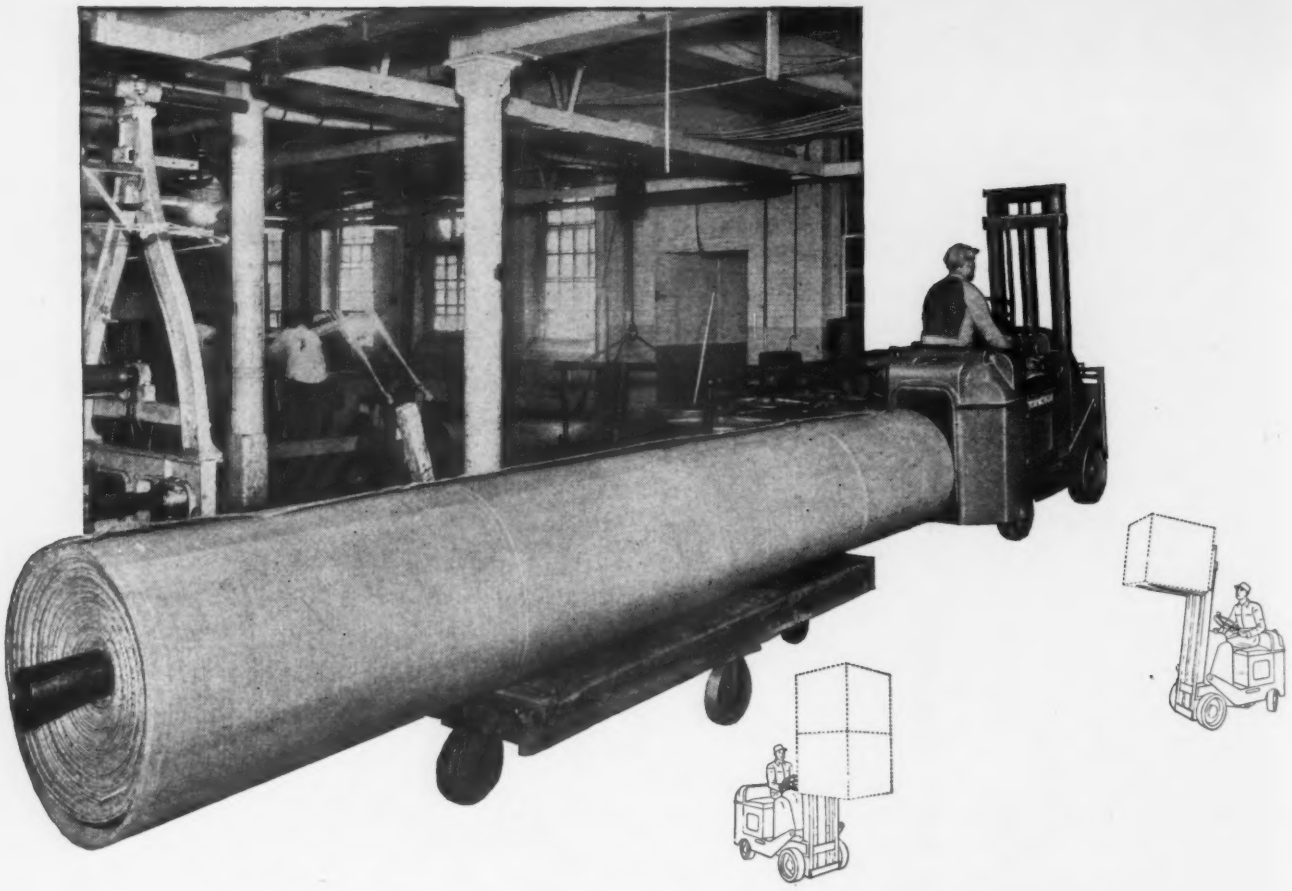
Operation of the machine is through mechanical controls within easy reach of the operator. Cloth speed is constant and measuring is accurate and dependable. Ball bearings are used throughout. Motor and 1-3 variable speed drive. Lubricated parts are sealed in oil.

Write for descriptive leaflet

VAN VLAANDEREN MACHINE COMPANY

370 STRAIGHT ST., PATERSON 3, NEW JERSEY

World's largest manufacturer of machines for processing modern fabrics

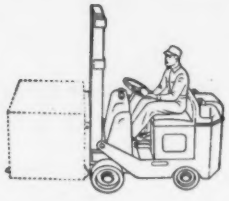


How to Run Circles Around Competition

In most plants, handling costs are too high. Reduce handling costs and you reduce production costs . . . reduce production costs and you increase profit margins . . . and increased profit margins always give you a head start on competition.

Let's go back to the beginning: You can reduce handling costs to a minimum with a Towmotor Fork Lift Truck, designed for 24-hour, full-power service . . . lifting, transporting and stacking all types of materials and products throughout production and distribution.

There's a Towmotor Fork Lift Truck or Accessory that can bring your handling costs down. Send for a Pocket Catalog.



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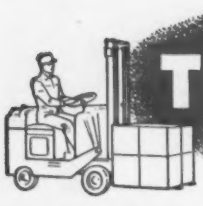
Division 22, 1226 East 152nd Street, Cleveland 10, Ohio



TOWMOTOR *THE ONE-MAN-GANG* **FORK LIFT TRUCKS *and* TRACTORS**

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

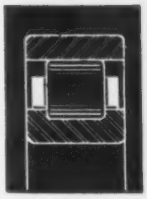
1

The Cylindrical Roller Bearing

AS PRODUCED BY NORMA-HOFFMANN

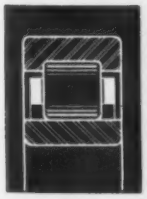
USE THIS BEARING WHERE NO OTHER ANTI-FRICTION BEARING WILL STAND UP:

- HIGH SPEEDS
- PLUS HEAVY LOADS
- PLUS TEMPORARY OVERLOADS
- PLUS SHOCK
- PLUS VIBRATION

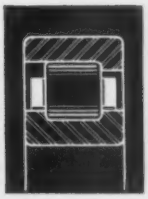


"R" Type: For heavy radial load and axial float. Straight outer ring, two-lipped inner ring.

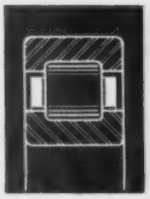
FIVE STANDARD TYPES of cylindrical roller bearings are shown in cross-section below. Other variations of this type are also available. Metric and inch sizes up to 22½" bore.



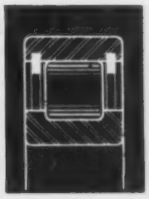
"R-E" Type: For heavy radial load and axial float. Two-lipped outer ring, straight inner ring.



"R-L" Type: For heavy radial load and one-direction axial location. One-lipped outer ring, two-lipped inner ring.



"R-LL" Type: For heavy radial load and two-direction axial location. Two-lipped outer ring, two-lipped inner ring.



"R-RR" Type: For heavy radial load. Full-roller retainerless type with snap rings.

NORMA-HOFFMANN PRECISION ROLLER BEARINGS GUARANTEE YOU:

- LARGER SHOCK-ABSORBING CAPACITY THAN ANY OTHER TYPE SINGLE-ROW BEARINGS.
- MARGIN FOR 50% OVERLOADS.
- LOWER FRICTION COEFFICIENT UNDER HEAVY LOAD THAN ANY OTHER TYPE BEARING.
- SPEEDABILITY EQUAL TO ANY BALL BEARING, SIZE FOR SIZE, UP TO 35,000 R.P.M.
- 100% MACHINED, EXTRUDED BRONZE CAGE OF MAXIMUM DENSITY AND UNIFORMITY.

"NORMA-HOFFMANN"

PRECISION BALL, ROLLER AND THRUST BEARINGS

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STAMFORD, CONNECTICUT
FIELD OFFICES: New York, Chicago, Cleveland, Detroit, Pittsburgh, Cincinnati, Los Angeles, San Francisco, Portland, Ore., Seattle, Phoenix

Let's look at the Record!

As we start on our 101st year of making valves for industry, we feel that the past record of Powell Valves throughout 100 years of meeting *every* industrial flow control requirement as it has arisen constitutes a definite assurance of future performance.

So, whenever you need valves—for replacements or for new installations—consult Powell. If you have any flow control problems, Powell engineers will be glad to help you solve them.

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DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

Catalogs on request. Kindly state whether you are chiefly interested in Bronze, Iron, Cast Steel, or Corrosion-Resistant Valves.

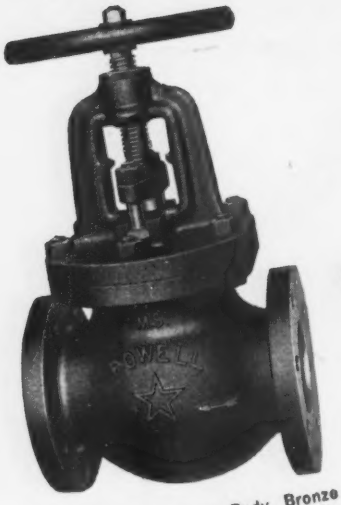


Fig. 301—125-pound Iron Body Bronze Mounted Globe Valve. Has flanged ends, outside screw stem, bolted flanged yoke, renewable bronze seat and disc holder with renewable composition disc.

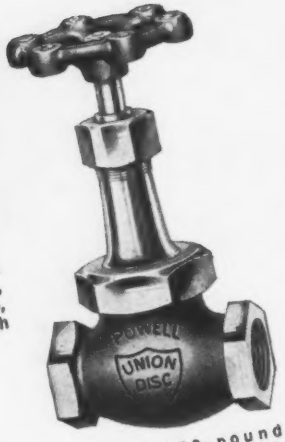


Fig. 150—150-pound Bronze Globe Valve with screwed ends, union bonnet and renewable composition disc.

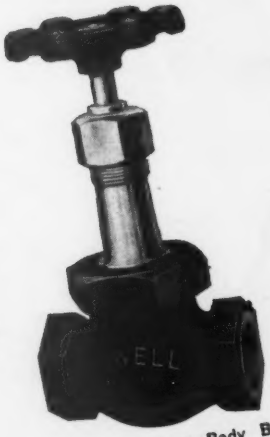


Fig. 190—150-pound Iron Body Bronze Mounted "Irenew" Globe Valve. Has screwed ends, union bonnet and regrindable, renewable wear-resisting "Powellium" nickel-bronze seat and disc.

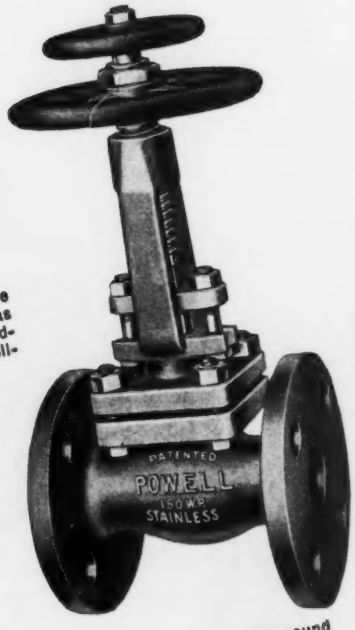


Fig. 1979 S. W.—150-pound Stainless Steel Globe Valve. Has flanged ends, outside screw stem and bolted flanged yoke. Equipped with Powell patented seat wiping arrangement.

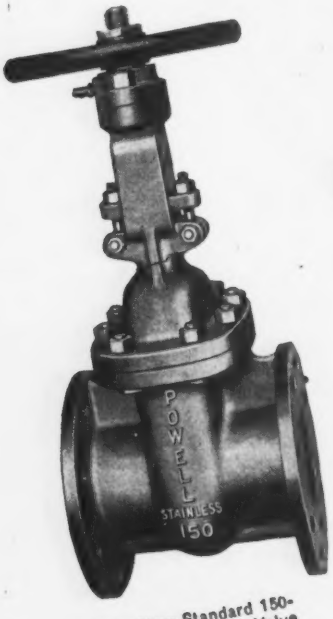


Fig. 2453 G—New Standard 150-pound Stainless Steel Gate Valve with outside screw rising stem, bolted flanged yoke-bonnet and taper wedge solid disc.

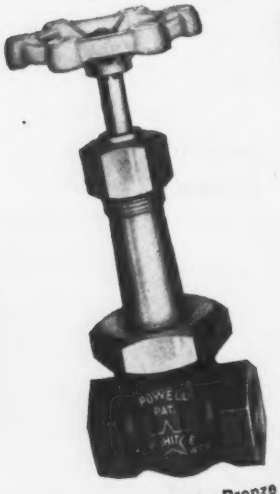
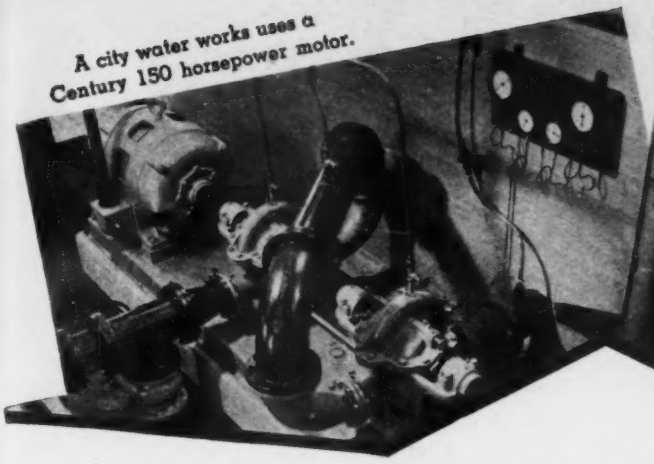


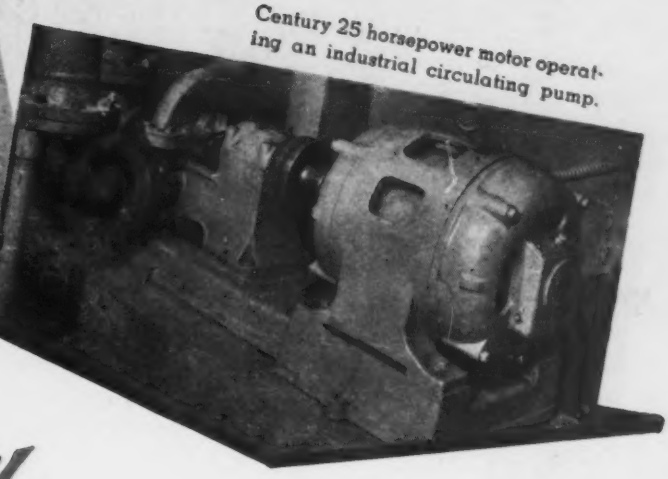
Fig. 375—200-pound Bronze Gate Valve with screwed ends, inside screw rising stem, union bonnet, renewable, wear-resisting "Powellium" nickel-bronze disc.

Fig. 2429—150-pound Stainless Steel O. S. & Y. Globe Valve. Has flanged ends and outside screw stem.

POWELL VALVES



A city water works uses a Century 150 horsepower motor.



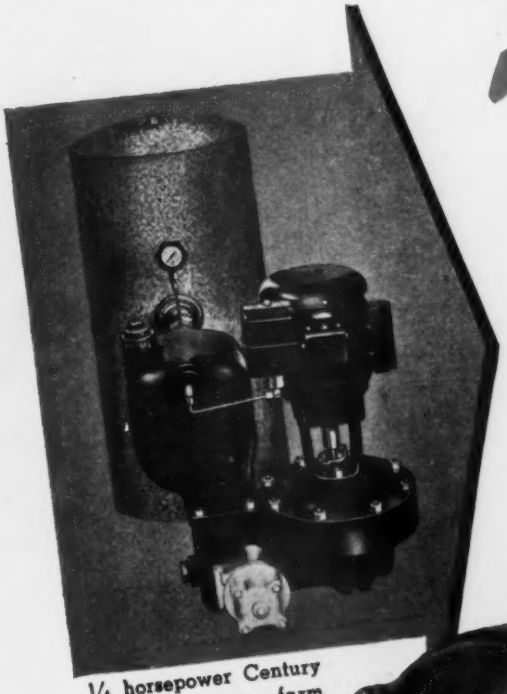
Century 25 horsepower motor operating an industrial circulating pump.

Century

Moisture Protected PUMP MOTORS

Assure Dependable Power for Water Supply

- On Farms
- For City Water Supply
- In Industrial Plants
- For Fire Protection



¼ horsepower Century motor operates a farm water system.

Century's triple insulation is especially effective in resisting high humidity and dampness — thus the windings are protected against premature deterioration.

Hundreds of thousands of Century motors are providing a long life of satisfactory service on pump installations of many kinds and sizes, from small fractional horsepower farm water systems to large city and industrial pumping plants.

They start quietly, run quietly and with an unusual freedom from vibration.

Century motors are built in a wide range of types, in sizes from 1/6 to 400 horsepower — for any type of pumping service — in any climate — and all other electric power applications. Specify Century motors for all your electric power requirements.

Century C MOTORS

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CENTURY ELECTRIC COMPANY 1806 Pine St., St. Louis 3, Mo.

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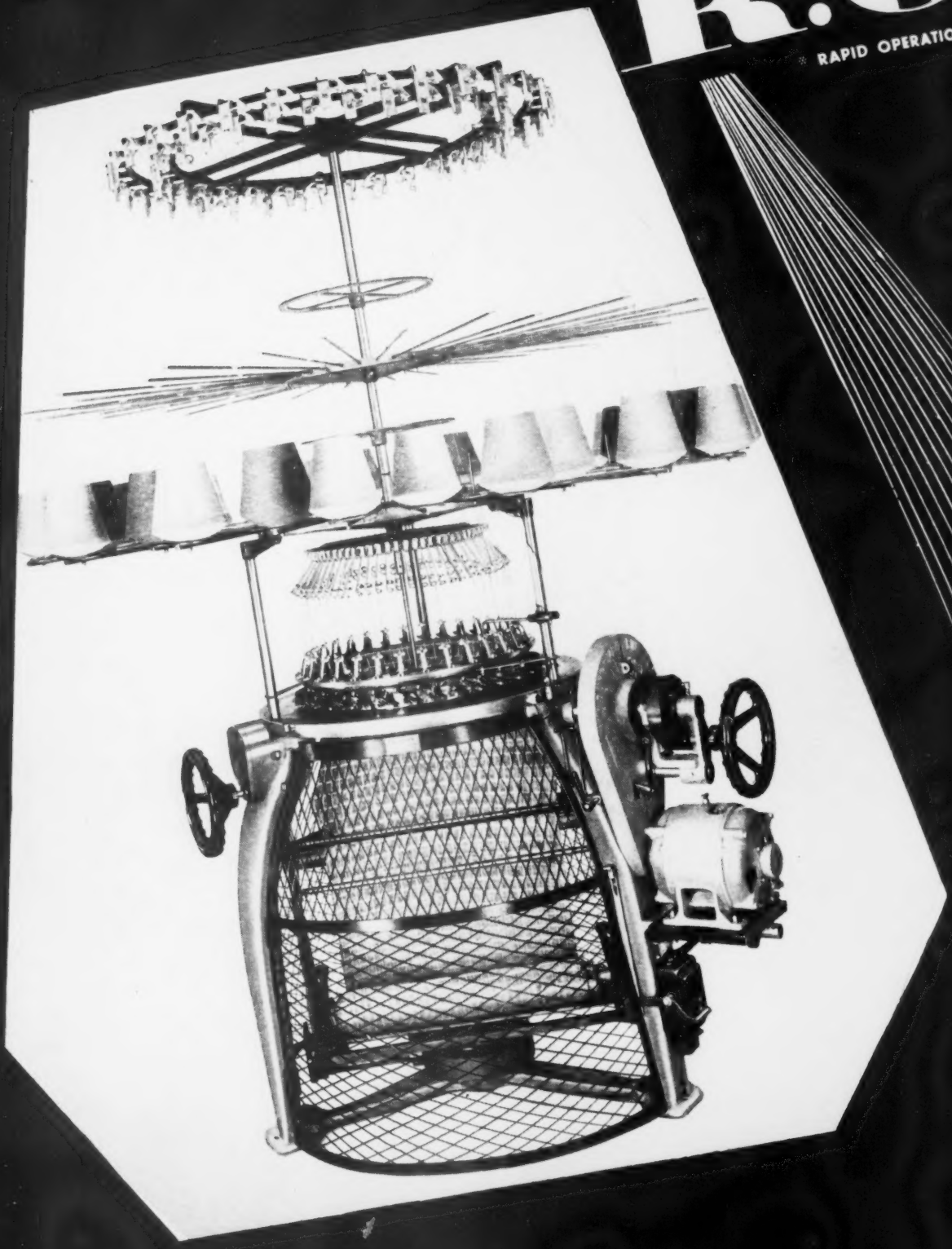


For Jacquard-Type Knitting

PATTERN WHEEL MACHINE for Brilliant Intricate Colorful Designs

Supreme Presents . . .

the new Model RO, another in a series of SUPREME'S High Speed Production Machines . . . Engineered specifically to meet the demands of the modern mill for fancy pattern knitting, Model RO, the latest addition to Supreme's line, opens an entirely new field in the production of intricate, pattern, design, inlay and lace cloth.

Producing fancy pattern fabric at an unprecedented rate, RO is absolutely the tops in efficiency, quality and operational economy.

Tremendous Range . . .

makes it easy to meet shifting consumer demand. Innovations in styling and novelty items are easily accommodated.

Specifications

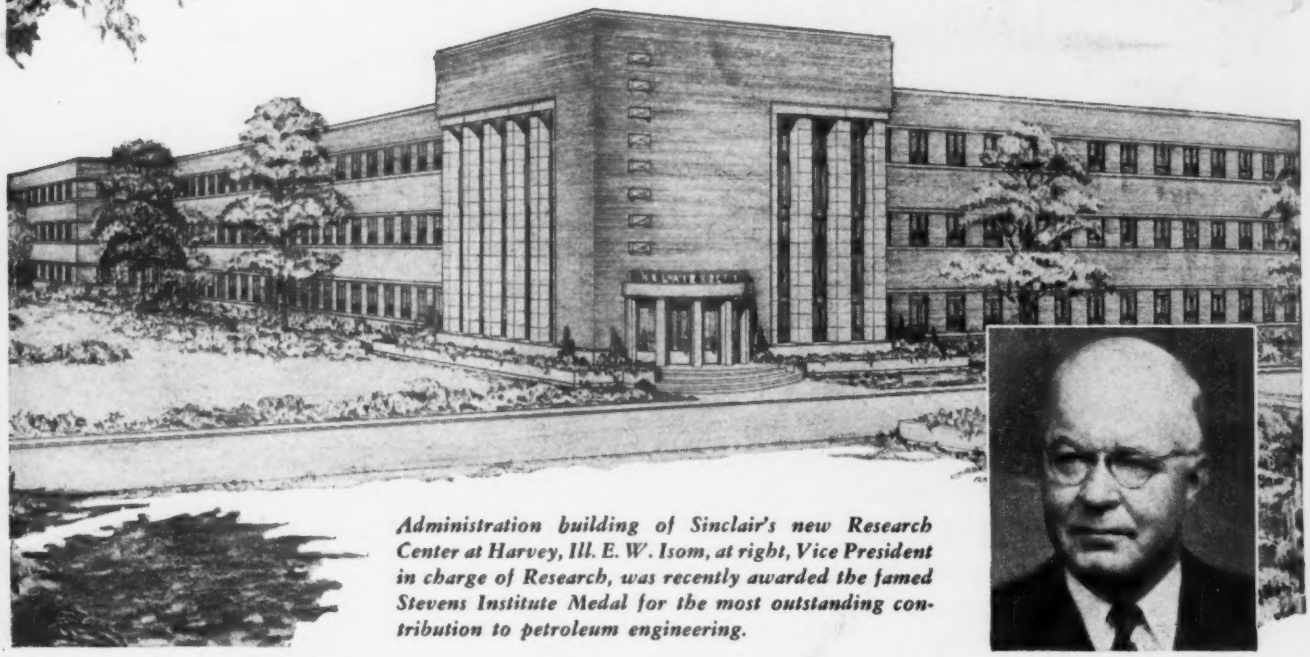
- Circular Knitting Machine of sinker-top type equipped with Precision Pattern Wheels for unlimited pattern possibilities.
- Double fork sections with "Flick of the Thumb," rotary tuck or knit selectors.
- Produces single needle pattern cloth.
- Smooth acting revolving cylinder, take-up, and cloth roll-up combined with stationary yarn stand.
- Like all the new Supreme machines, RO features unit motor drive, Timken bearings, positive multi-disc clutch, balanced take-up, electric stop motion and cloth fall-out detector, warning and locating lamps and other safety devices.
- Model illustrated 24" — 32 feed machine. Other sizes with corresponding number of feeds available.

NOW . . .

get the facts about RO — the Newest and Most Remarkable Multi-feed Pattern Wheel Knitting Machine offered to the Industry. Write DEPT LS Immediately. Better still come and see the RO move swiftly and smoothly through its paces at the Supreme Factory or Showrooms.

Outstanding Ability

. . . to solve your lubrication problems



Administration building of Sinclair's new Research Center at Harvey, Ill. E. W. Isom, at right, Vice President in charge of Research, was recently awarded the famed Stevens Institute Medal for the most outstanding contribution to petroleum engineering.

Sinclair is completing a new $4,000,000 petroleum research and development laboratory at Harvey, Ill. This great research center — to be the most modern and best equipped in the industry — climaxes more than 30 years of consistent achievement in the development of superior products for the solution of your most difficult lubrication problems.

The outstanding skill and vast technical knowledge of recognized experts in the petroleum field will continue to serve you at Harvey as they have for so many years at East Chicago.

For tested, proven lubricants . . . *designed by special research for specific industrial application* . . . rely on *Research-Wise Sinclair.*

Sinclair Textile Lubricants

LILY WHITE OILS
For Spindles

NO-DRIP LUBRICANTS
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RUBILENE
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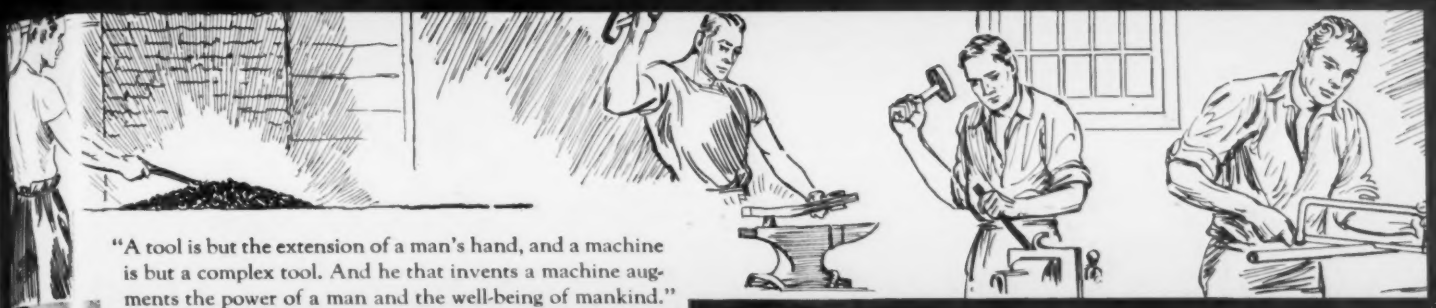


"A tool is but the extension of a man's hand, and a machine is but a complex tool. And he that invents a machine augments the power of a man and the well-being of mankind."

Modern machines have made Americans the world's most efficient workers, and with every increase in efficiency, the worker has increased his share of the good things of life and the time in which to enjoy them. In Full-Fashioned Knitting, the READING Machine is the machine that insures the high standard of living of the thousands of skilled workers in the industry.

TEXTILE MACHINE WORKS · READING, PA.

Good Resolutions . . . The promise of finer stockings is one good resolution TMW is helping hosiery manufacturers to keep. To meet the exacting requirements of today's fine hosiery, TMW Needles are "Fixture Drawn."* This exclusive process holds the needles straight and true, thus assuring uniform high quality knitting. Let us put your needle bars in shape for faster, more accurate, more profitable knitting.

* Reg. U. S. Pat. Off.

TEXTILE MACHINE WORKS • READING, PA.

TECA

HAND-STAPLE a specimen of TECA, Eastman *crimped* acetate rayon. Note the uniformity of the fibers—insuring the smooth, even blending essential for successful cross-dyeing. Feel their softness—it makes for richer textures. Stretch and relax the fibers—this resilience gives a weave extra "life," extra resistance to sagging and crushing.

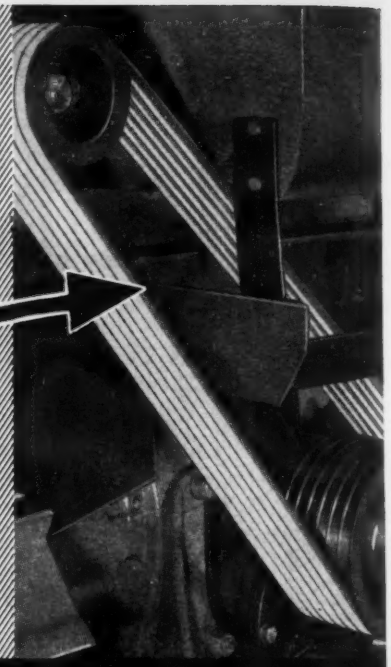
Men who know textile fibers know TECA will turn in a consistently good performance on any spinning system—cotton, rayon, wool, or worsted. And it naturally follows that such uniformity will help turn out a top-quality fabric—not once, but *every time.*

• • •

For further information about Teca, consult A. M. Tenney Associates, Inc., 10 East 40th Street, New York 16, sales representatives for TENNESSEE EASTMAN CORPORATION (*Subsidiary of the Eastman Kodak Company*), KINGSPORT, TENNESSEE.

Eastman
Crimped
Acetate
Rayon

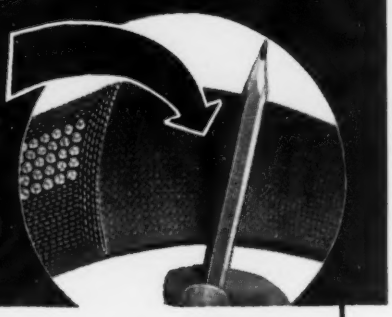
In *ANY* V-Belt It's the *SIDES* That Get the *WEAR!*



The moment you look at a V-Belt in its sheave you see at once that the *sides* of the belt do all the gripping on the pulley and get all the wear against the sheave-groove wall.

Notice, too—it's the *sides* that pick up all the power delivered by the driver pulley. The sides *transmit* that power to the *belt as a whole.* And then, once more, it's the sides—and the sides *alone*—that grip the driven pulley and *deliver* the power to it.

That's Why The FACT That the CONCAVE SIDE (A GATES PATENT) *REDUCES* Sidewall *WEAR* Is IMPORTANT to You!



The fact that the *side* is the part that does the work and gets the wear explains why you have always noticed that the sidewall of the *ordinary* V-Belt is the part that wears out *first.* Naturally, then, when you lengthen the life of the sidewall you lengthen the life of the belt.

The simple diagrams on the right show exactly why the ordinary, *straight-sided* V-Belt gets excessive wear along the *middle of the sides.* They show also why the Patented Concave Side *greatly reduces* sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belts can possibly give.

Straight Sided V-Belt

How Straight Sided V-Belt Bulges When Bending Around Its Pulley

You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

Gates V-Belt with Patented Concave Sidewall

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley

No Bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!

Longer Sidewall Wear Is NOW MORE IMPORTANT Than Ever Before!

Now that Gates Specialized Research has resulted in V-Belts having much stronger tension members—tension members of Rayon Cords and Flexible Steel Cables, among others—the sidewall of the belt is often called upon to transmit to the pulley much heavier loads. Naturally, with heavier loading on the sidewall the life-prolonging Concave Side is more important today than ever before!

THE GATES RUBBER COMPANY, DENVER, U. S. A.

World's Largest Makers of V-Belts

471

GATES VULCO ROPE DRIVES

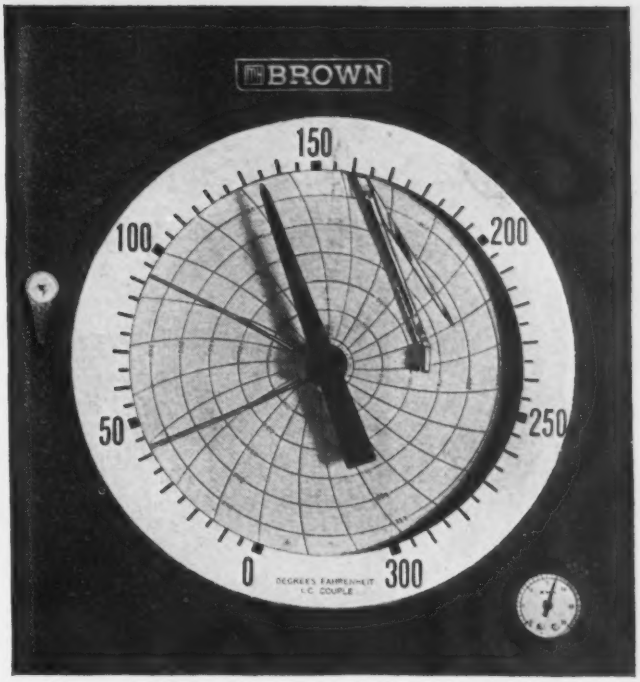
Engineering Offices and Jobber Stocks **IN ALL INDUSTRIAL CENTERS** of the U. S. and 71 Foreign Countries

Gates

REG. U. S. PAT. OFF.

THE MARK OF SPECIALIZED RESEARCH

IS IT WISE... To COMPROMISE in Continuous Bleaching?



Beware of a compromise in the instrumentation of continuous bleaching systems. A compromise may seriously affect product quality and economy of operation.

Continuous bleaching ranges are now being made to handle up to 300 yards per minute. Astounding to be sure . . . but at such tremendous speeds temperature fluctuations can occur swiftly and have far-reaching effect. Improper temperature for only one minute means 300 yards incorrectly processed.

Fortunately, the speed of the Brown ElectroniK Potentiometer, operating on the "Continuous Balance" principle, forestalls such harmful temperature fluctuations. Rapid *detection and correction* of the slightest temperature change prevents any appreciable deviation from occurring. Only the Brown ElectroniK Potentiometer provides "Continuous Balance."

Continuous Bleaching needs "*Continuous Balance*".

In the early stages of continuous bleaching a complete range was made available to Brown Engineers for reasearch tests. An important result was the scientific selection of the proper equipment for each phase of the complete control job. The broad line of Brown Instruments covers every requirement of continuous bleaching systems. Thus, complete instrumentation can be the responsibility of one experienced manufacturer.

SEND FOR YOUR FREE COPY.

This new informative 32-page catalog contains drawings, photographs and descriptions of many textile processes complete with instrumentation. Every textile mill executive will want to have a copy. Send for Catalog 9305 today.

At the planning stage, call in your local Brown Engineer. His advice, based on actual experience, is available without obligation.

THE BROWN INSTRUMENT COMPANY, a division of Minneapolis-Honeywell Regulator Company, 4509 Wayne Avenue, Philadelphia 44, Pa. Offices in all principal cities.

TORONTO, CANADA LONDON, ENGLAND STOCKHOLM, SWEDEN AMSTERDAM, HOLLAND

BROWN *Electronik* POTENTIOMETERS

Textile Resin

JUNIOR
BAZAAR
TRICK TISSUE
NEW YORK • CHICAGO • BEVERLY HILLS • DETROIT
SAKS FIFTH AVENUE
CRESTLEE gilds lily white wool jersey...washable, because it's Lanaset-treated to launder! It's an Eddie Rubenstein Original. Also in cinnamon, grey, mint green, melon. 9 to 15, 22.95. Seventh Heaven, New York.

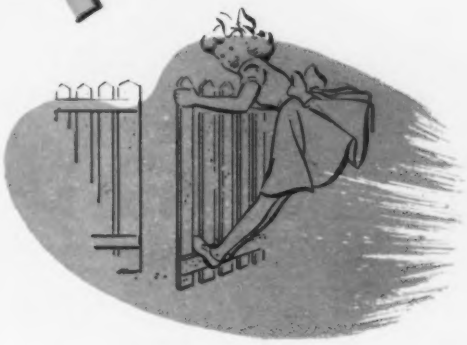
SAKS FIFTH AVENUE
features

*Lanaset** RESIN TREATED WOOL

Saks Fifth Avenue and other leading stores from coast to coast are now capitalizing on the strong consumer appeal inherent in *washable* wool. In their magazine and newspaper advertising and in window displays, they are promoting apparel treated with LANASET Resin—the durable finish which now makes woolens washable and preserves their original texture throughout numerous hand launderings.

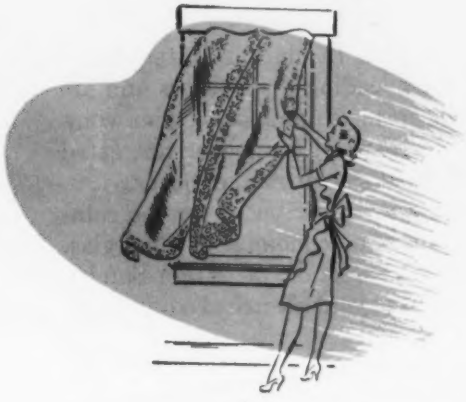
LANASET Resin offers a new stimulus to sales for the enterprising woolen manufacturer. The services of our Technical Staff are available for adapting present fabrics or developing new fabrics in order to obtain best results from LANASET. **Reg. U. S. Pat. Off.*

Topics



Sheerset* RESIN Now, at last—all types of sheers, from crisp cotton dresses for children to lovely marquisette bedspreads, can be washed and still retain their crisp, new look. That's because of SHEERSET, the finish which imparts a durable, non-wilting quality to all sheer fabrics.

aerotex† softener H achieves a finish of appealing softness, smoothness, suppleness of drape in fine fabrics for personal apparel. It *belongs* in quality woolens, cottons and synthetic fabrics for all-purpose wear. Manufacturers find it a most dependable finish wherever superior softness is desirable.



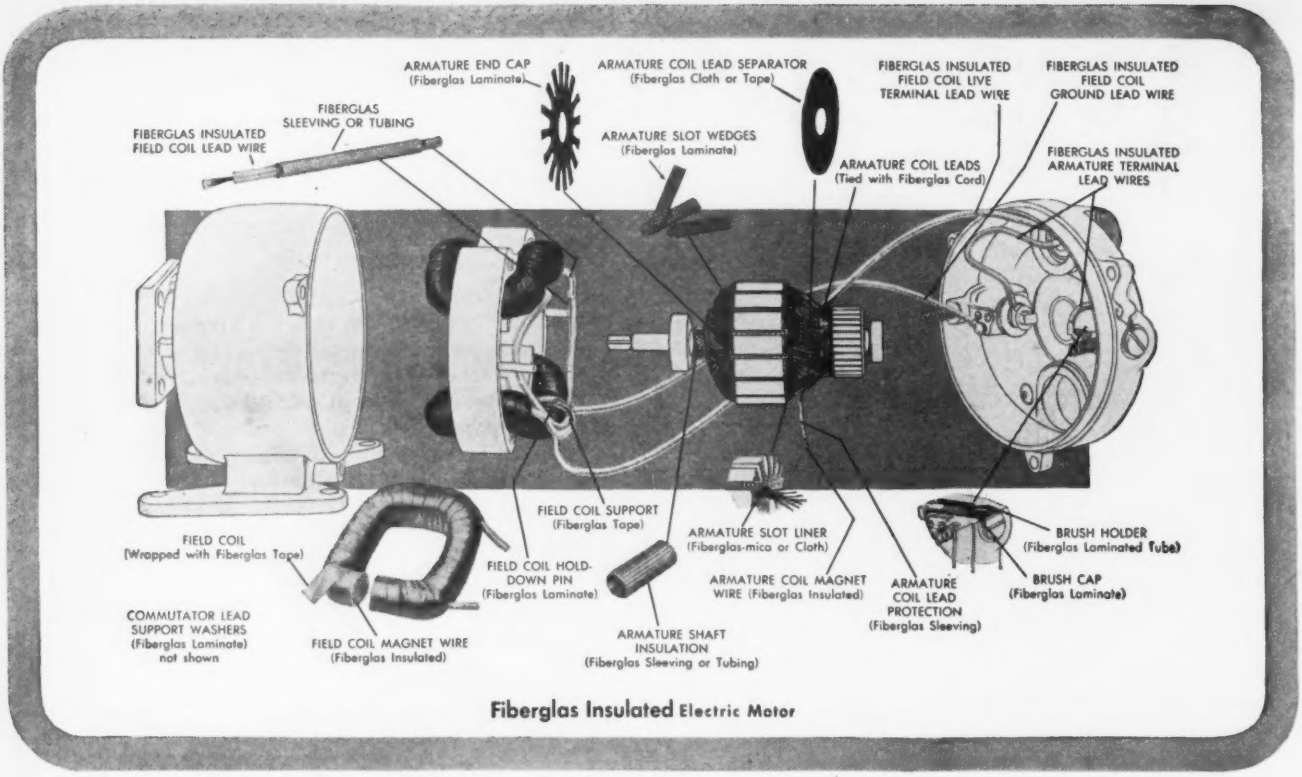
Lacet* RESIN takes the "labor" out of the washing of cotton or rayon Nottingham lace curtains, as it eliminates the need for wearisome starching, framing and ironing. Curtains treated with LACET resist soil and retain their crisp, new look after numerous washings. Stretching (sagging) and shrinking are kept at a minimum.

LANASET RESIN • SHEERSET* RESIN • AEROTEX† SOFTENER H • LACET* RESIN • PERMEL* RESIN*

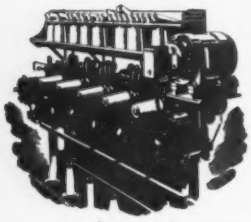
**Reg. U. S. Pat. Off.* †*Trade-mark of American Cyanamid Company*

AMERICAN CYANAMID COMPANY
TEXTILE RESIN DEPARTMENT
BOUND BROOK, NEW JERSEY

New York • Boston • Philadelphia • Providence • Charlotte • Chicago



Fiberglas Insulated Electric Motor



WHEN MOISTURE CUTS PRODUCTION, USE "HIGH-SAFETY-FACTOR" INSULATION

When high humidity attacks the efficiency of electrical equipment, *extra protection* is needed for motors, generators, and transformers. In many textile industry processes, Fiberglas "High-Safety-Factor" Insulation Materials, resistant to moisture, are helping reduce costs caused by "burn-outs" and rewind delays in both new equipment and maintenance work.

These insulating materials are made from fibers of glass that are unaffected by moisture, oil and corrosive acids or vapors. They possess high heat resistance and great tensile strength, providing a strong, thin, flexible base for insulating impregnants.

The cost of the extra protection afforded by Fiberglas Insulation is slight—only a fraction of the cost of the original equipment. Invaluable savings in time and machinery more than offset the cost of Fiberglas.

Fiberglas Electrical Insulation Materials are sold nationally by leading distributors and are available in the form of laminates, mica combinations, insulated wire, treated or untreated tying cords, braided sleevings and cloths.

Ask your Fiberglas Distributor for the complete story on the use economies of Fiberglas. Add the "extra" protection of "High-Safety-Factor" Insulation to your electrical equipment.

Here is performance and application data about Fiberglas that may help solve your insulation problem. Write today for the new Fiberglas Electrical Insulation Materials catalog EL46-11. Owens-Corning Fiberglas Corporation, Dept. 864, Toledo 1, Ohio. Branches in principal cities.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario.

ASK FOR FIBERGLAS IN YOUR NEW MOTORS—AND ON YOUR NEXT REWINDS

OWENS-CORNING
FIBERGLAS
REG. U.S. PAT. OFF.

OTHER FIBERGLAS PRODUCTS: Thermal Insulations • "Dust-Stop" Air-Filters • Fiberglas Yarns and Cloths • Fiberglas Mats

Bunting is equipped to produce special Cast Bronze Bearings in any quantity from a single bearing to a million a month of a single size.

Bunting ability to deliver is traditional—whether the quantity be one or a million. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Branches in principal cities.

Bunting

BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS

56

Easier way to better piping
...CRANE Supplies Everything

Why do it the hard way when you can simplify every step of piping jobs—from design to erection to maintenance work. Specify Crane equipment—the truly complete line that not only includes everything you need, but assures the quality you want in every item.

This air service piping system, for example, shows the 3-way advantage of standardizing on the complete Crane line—

ONE SOURCE OF SUPPLY gives you the world's most complete selection of valves, fittings, pipe, accessories and fabricated piping for all power, process, and general service applications. One order covers everything for the job.

ONE RESPONSIBILITY for piping materials helps you to get the best installation and to avoid needless delays on jobs.

OUTSTANDING QUALITY in every item assures uniformly high performance in every part of piping systems.

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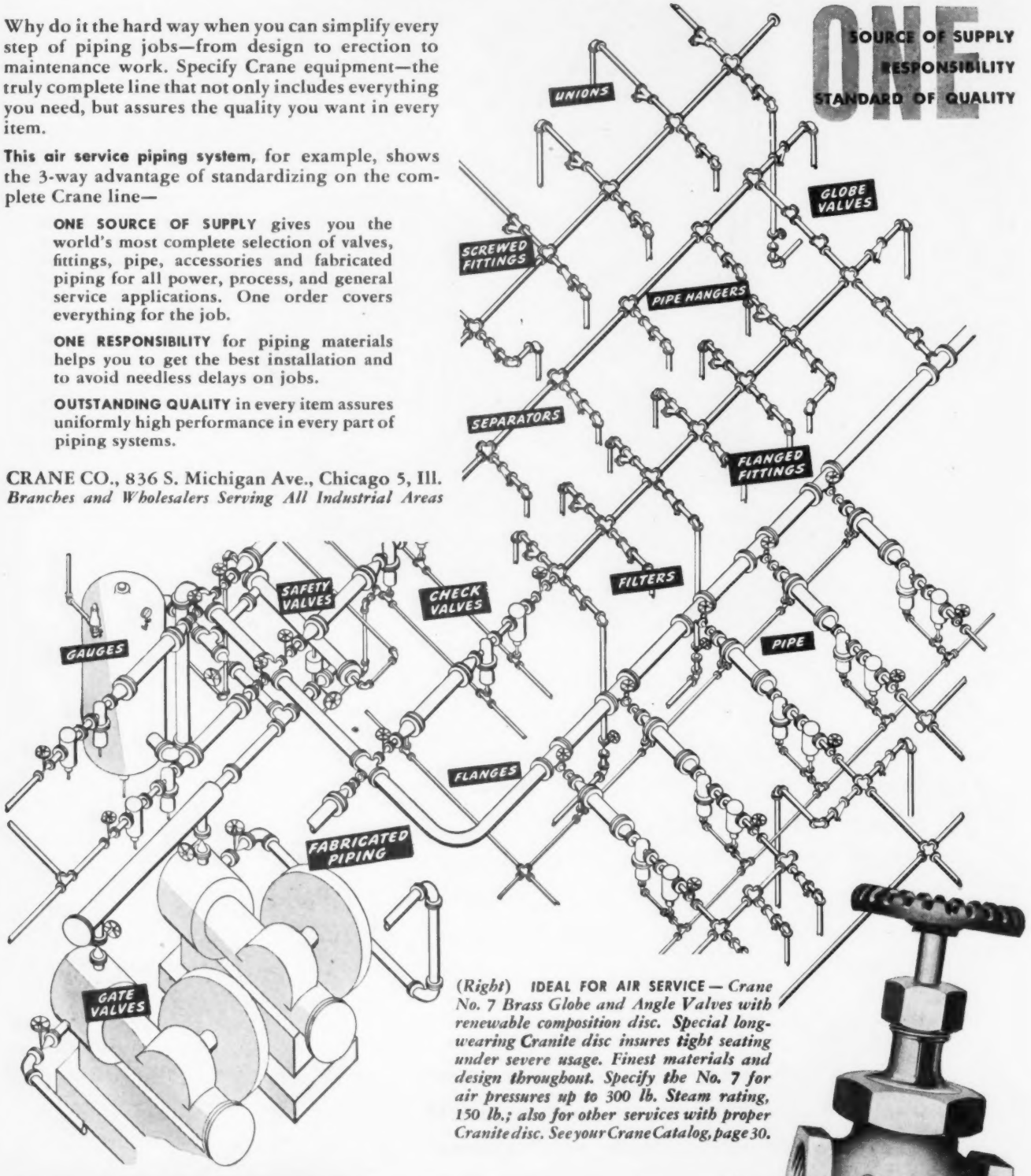


(Right) **IDEAL FOR AIR SERVICE**— *Crane No. 7 Brass Globe and Angle Valves with renewable composition disc. Special long-wearing Cranite disc insures tight seating under severe usage. Finest materials and design throughout. Specify the No. 7 for air pressures up to 300 lb. Steam rating, 150 lb.; also for other services with proper Cranite disc. See your Crane Catalog, page 30.*

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
HEATING • PUMPS

CRANE

FOR EVERY PIPING SYSTEM

an important Step..

taken without a second thought

You step into a modern elevator as unconcernedly as you step into your slippers. You take it for granted that you will be carried up or down swiftly and comfortably. Safety . . . or the lack of it . . . never enters your mind. That is as it should be. But you may be interested in knowing how "Otis Elevators" and "safety" have become practically synonymous.

It started 94 years ago with Elisha Otis, founder of this business. At the Crystal Palace Exhibition in New York, he dramatically cut the ropes holding up the elevator platform on which he was standing. His crude "safety device" worked. The world had its first *safe* elevator.

As car speeds increased, as buildings grew taller, safety devices were designed to meet changed conditions. Skyscrapers came of age when Otis was able to "elevator" them. Acceptance of "Otis Safety" has become deep-rooted with the years. And justly so . . . because Otis has promoted safety in every phase of elevator design, construction, installation, operation and maintenance since 1852.

For the finest in vertical transportation tomorrow, call Otis today. This, too, is an important step you can take . . . without a second thought.

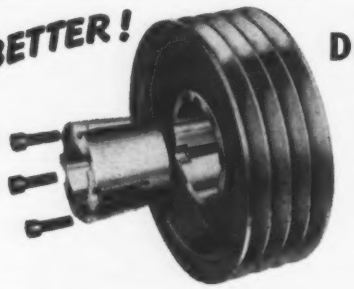
Otis ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

NEW AND BETTER WAYS OF POWER TRANSMISSION

There are new ways to put more power on the job. Get the facts. Ask the Dodge Transmissioneer to tell you about the latest developments by Dodge of Mishawaka. The Transmissioneer is your local Dodge distributor, listed in the classified telephone directory under "Power Transmission Equipment."

DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

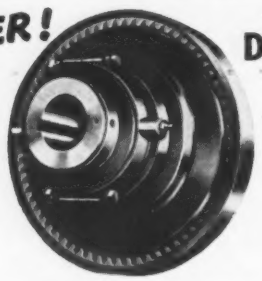
NEW AND BETTER!



DODGE TAPER-LOCK BRAND SHEAVE

An entirely new type of taper bushed sheave—the simplest, surest mechanism ever devised for holding wheels to shafts! No flange. No collar. No protruding parts. Mounts as a complete unit. Breaks all speed records in mounting and demounting—saves time and temper.

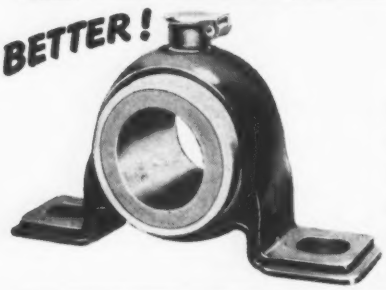
NEW AND BETTER!



DODGE ROLLING GRIP FRICTION CLUTCH

No Toggles! Rugged, compact, easy to adjust. Another great achievement of Dodge Transmissioneering . . . designed to give outstanding flexibility and ease of control without any sacrifice of positive drive . . . and available at low cost! Sizes ½ H. P. to 20 H. P. at 100 R.P.M.

NEW AND BETTER!



DODGE *BronZoil* BEARING

Designed especially for exacting requirements of fan and blower service. Capillary bronze bushing has capacity of one-third its volume in oil. Reservoir and wick provide ample lubrication. Fully self-aligning. Neoprene oil resisting grommets available for noise isolation.

DODGE

MISHAWAKA

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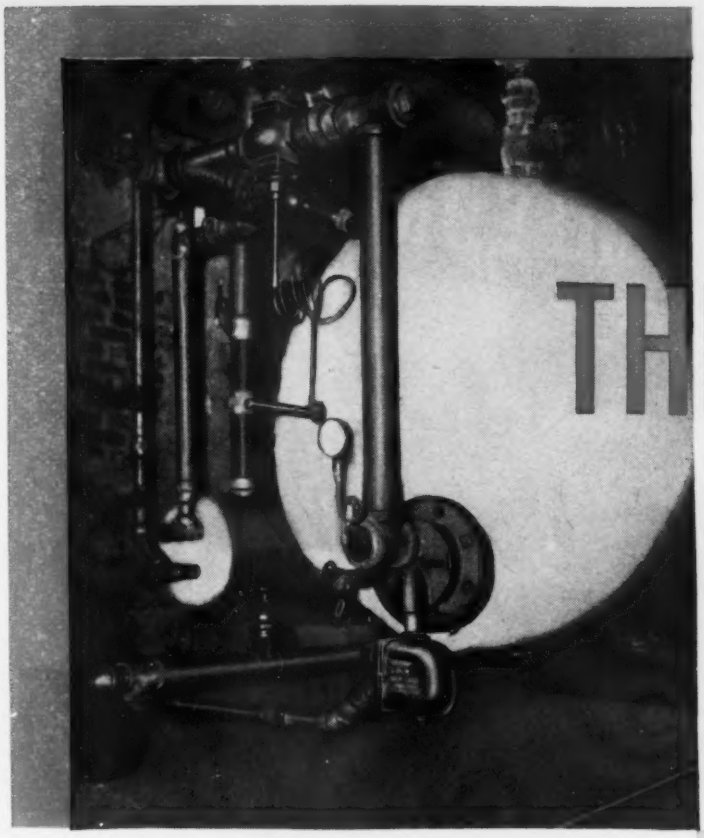
NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS



THE LUXURY

AND ECONOMY *of Correct Temperatures* AT LESS COST

This is the story of a Maintenance Engineer who has ceased to worry about heating and hot water temperatures because he knows how to use the various forms of Sarco steam traps and temperature control.

The large storage heater is controlled by the Sarco TR 21 Temperature Regulator and drained by the Sarco Float-thermostatic trap shown at right. At the rear is a hot water converter for the heating system held to exact temperature by a Sarco 2430 temperature regulator.

At other points the low cost Sarco 87 Thermoton is used to insure correct temperatures for food warming and satisfactory temperatures on incidental showers served by instantaneous heaters. In fact, Sarco is now standard throughout the shops, office and real estate holdings. It's a case where Sarco products work together as a team to produce permanent satisfaction and savings. All this engineer had to do in the beginning was to make one phone call—to the local Sarco representative.

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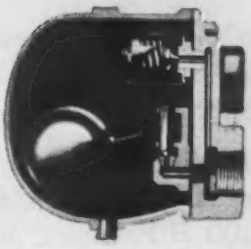
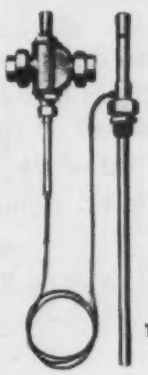
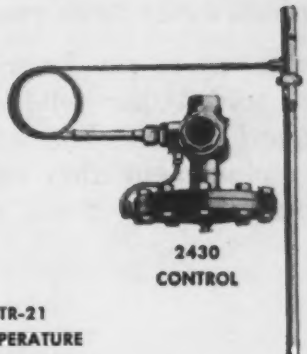
87 THERMOTON

FLOAT-THERMOSTATIC STEAM TRAP





TR-21 TEMPERATURE REGULATOR



2430 CONTROL

SARCO SAVES STEAM

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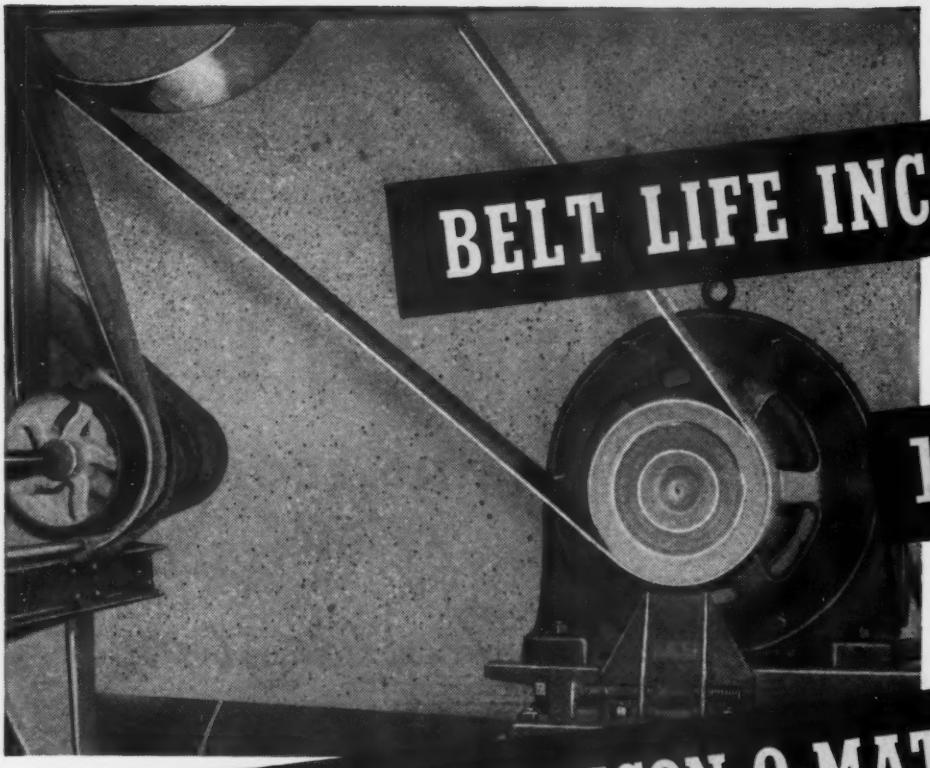


BELT LIFE INCREASED 133% BY AMERICAN ECON-O-MATIC DRIVE

The American Econ-o-matic Drive illustrated, powers a line-shaft operating a group of cotton linters.

Until seven years ago, the line-shaft was powered by a constant-tension drive with the 100 H.P. motor mounted on slide-rails. The drive proved troublesome—requiring new belts every three years.

Installation of an American Econ-o-matic Drive solved this belt-life problem. *It increased belt life 133%.* Instead of requiring replacement after only three years of service, the belt is still in good condition after seven years of trouble-free operation.

American Econ-o-matic Drives provide this kind of low-cost, trouble-free drive operation because they *match belt tension to the load.* They harness the load-controlled torque reaction of the motor to increase and decrease belt tension as the variations in the load require.

Write today for a copy of the American Econ-o-matic Drives Handbook. It explains the unique operation of these Drives and contains complete specifications and installation information. Chances are the maintenance costs of many of the drives in your plant could be materially reduced.

The American Pulley Company
4288 WISSAHICKON AVE., PHILADELPHIA 29, PA.

TEXTILE WORLD'S COTTON FLOW CHART

HIGHLIGHTS: *Processes in the cotton-type mill from bale to finished cloth involve many variations, including those for staple synthetics — Red lines show principal flow — Chart is first of series.*

NEED FOR comprehensive flow charts for the various branches of the textile industry has long existed, according to the number of inquiries received by TEXTILE WORLD for such material. Here is presented the flow chart for cotton-type mills. It is the first of a series – charts for other branches of the textile industry will follow in later issues.

Several years ago, TEXTILE WORLD prepared several very condensed flow charts to meet the demand from mills, engineers, suppliers, textile students, and others, including many persons new to the industry. These earlier, simpler charts, although never published in the magazine, were reprinted repeatedly to fill the great demand for them. They are no longer available.

Almost a year ago, TEXTILE WORLD'S enlarged editorial staff began work on the material for this wall chart. P. M. Thomas, associate editor; C. M. Bowden, Southern editor; C. Norris Rabold, consulting editor – all men with wide experience in cotton-type mills – laid out the chart and aided G. B. M. Walker, assistant editor, in obtaining the illustrations and in the other problems of producing the chart. Builders of textile machinery were contacted, sent lists of their machines to be included, and invited to comment and supply pictures of the latest, approved equipment.

The cotton branch of the textile industry is so complex that, admittedly, no chart can show all possible variations and combinations of operations that can be carried out. This complexity is intensified by the use of staple synthetics in cotton-type mills, by the spinning of wool on cotton machinery, and by the production of yarns for sale rather than for use within the same plant.

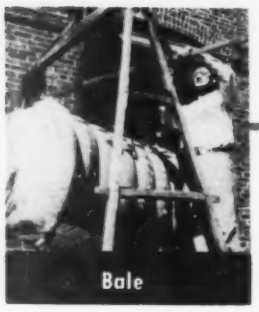
To delineate the main flow for cotton, our art director, R. M. Fink, has used red lines and arrows. Other possible variations are shown by black lines and arrows. For staple rayon and other synthetics, the opening and picking processes are, of course, quite simple; and, at the other end of the line, the scouring, dyeing, and finishing methods selected for these materials are normally among those which treat the goods most gently.–

C. W. BENDIGO, Editor.

Reprints are available from TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y., at 25¢ each—15¢ each in quantities of 20 or more.

Start Here

Follow the red line for principal flow of cotton through a cotton-type mill. Black lines indicate alternate processes, some of which are used for synthetics or wool on cotton machinery.


Bale

Storage

Legend:

Principal

Variation

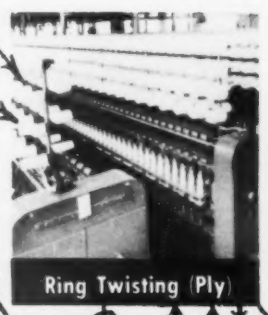
End of flo

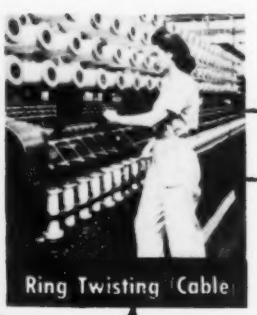
Spooling

Warping (Section)

Doubling

Cone Winding


Ring Twisting (Ply)

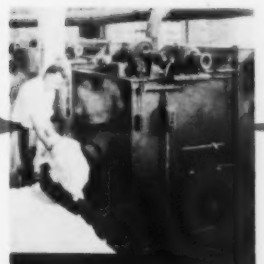

Ring Twisting (Cable)

cipal flow of material
ations in flow
of flow

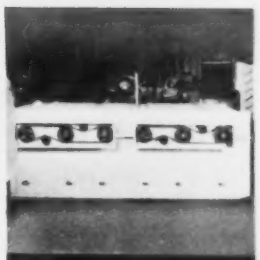
Vertical Opening

Mixing (Lummus)

Various combinations of these machines may be used.


Blending Feeder

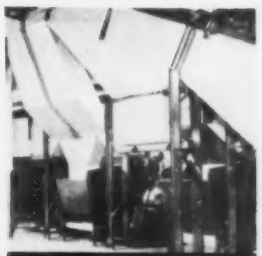
Horizontal Opening


Cleaning (Superior)

Cleaning (Trunk)

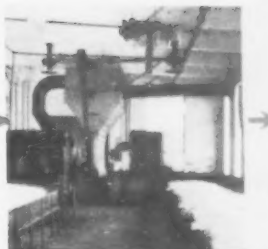
age

Centrif-Air

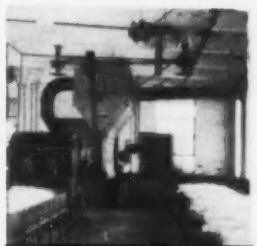

Gyrator

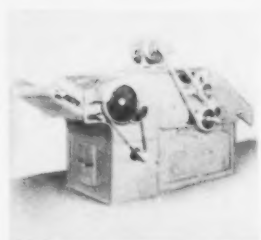
Feed Table

Condenser


Trunk Line

Bale Breaking


Trunk Line


Opening (Buckley)

Arrows show machines in which oiling takes place.

Oil Spraying

Kier Scouring

Bleaching

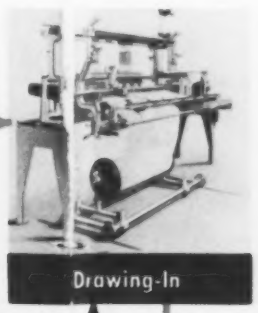
Dye Vat

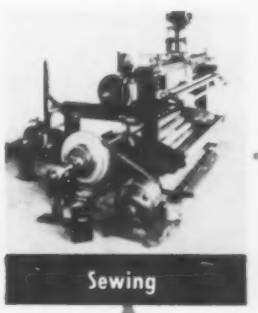
Extracting

Slashing, Weaving, and Cloth Room

Beaming

Slashing

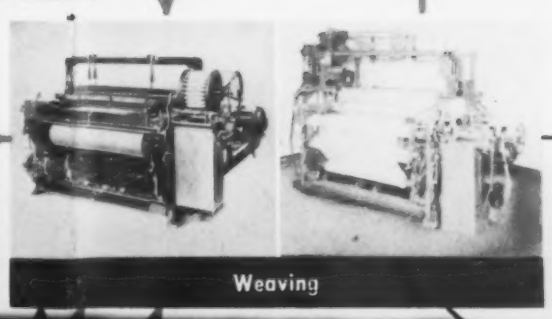

Drawing-In


Sewing

Batching

To Loom as Warp
To Yarn Shipping

Tying In


Weaving

Shearing

Yarn Preparation

Trunk Line

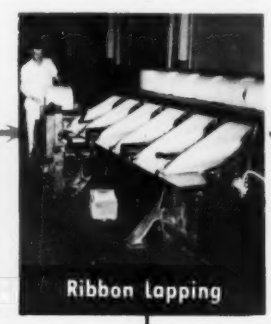
Distributing

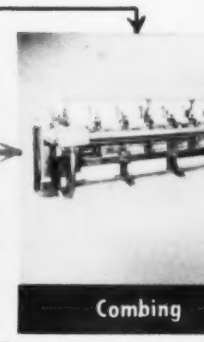
One-Process Picking

Blending Reserve

Carding

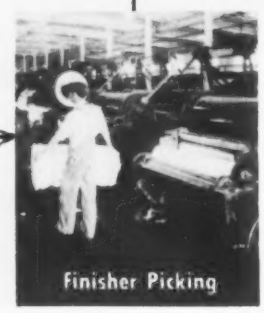
Sliver Lapping

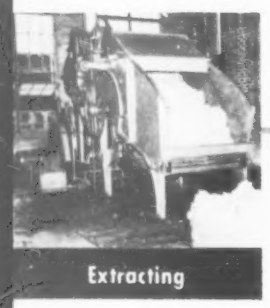

Ribbon Lapping

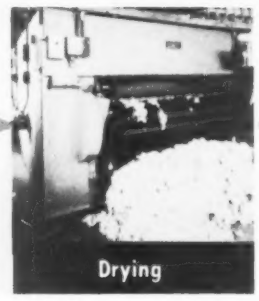

Combing

Breaker Picking

Intermediate Picking


Finisher Picking


Extracting

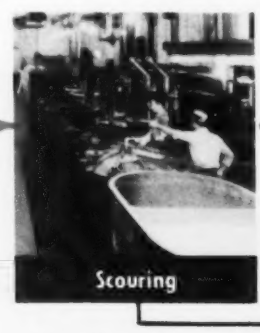

Drying

Baling

Batching

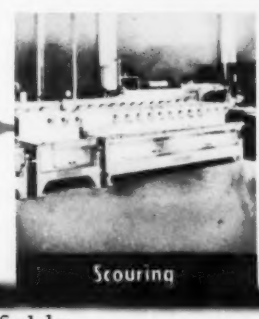
Inspecting

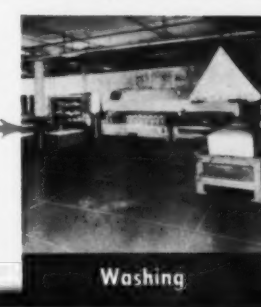
Yarn-Package Dyeing


Scouring

Bleaching

Yarn-Skein Dyeing


Scouring


Washing

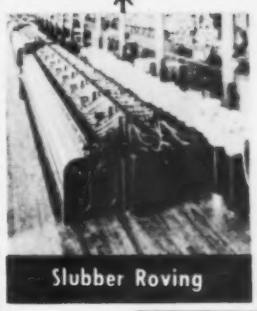
Several years ago, TEXTILE WORLD prepared several very condensed flow charts to meet the demand from

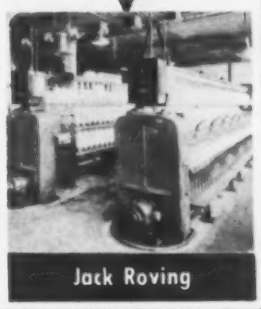
sible variations and combinations of processes can be carried out. This complexity is intensified by

Various combinations of conventional roving frame are used, with or without long draft.

Intermediate Roving

Fine Roving


Slubber Roving


Jack Roving

First Drawing

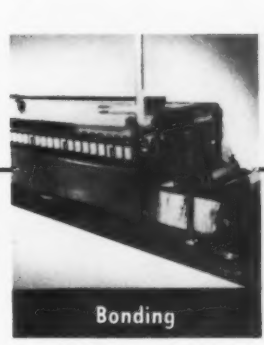
Second Drawing

Long-Draft Roving

Long-Draft Roving

Ring Spinning

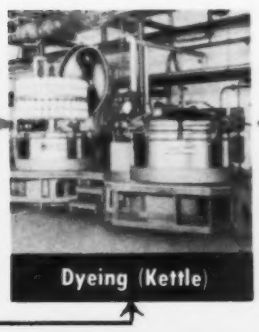
Lap-Back Drawing


Bonding

From Roving or Spinning Frame

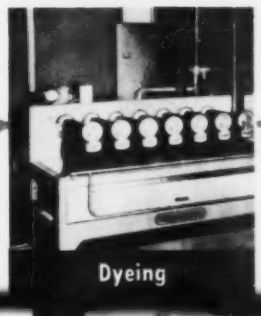
To Shipping

To Piece-Goods Preparation


Dyeing (Kettle)

Extracting

Drying


Dyeing

Extracting

Drying

Several years ago, TEXTILE WORLD prepared several very condensed flow charts to meet the demand from mills, engineers, suppliers, textile students, and others, including many persons new to the industry. These earlier, simpler charts, although never published in the magazine, were reprinted repeatedly to fill the great demand for them. They are no longer available.

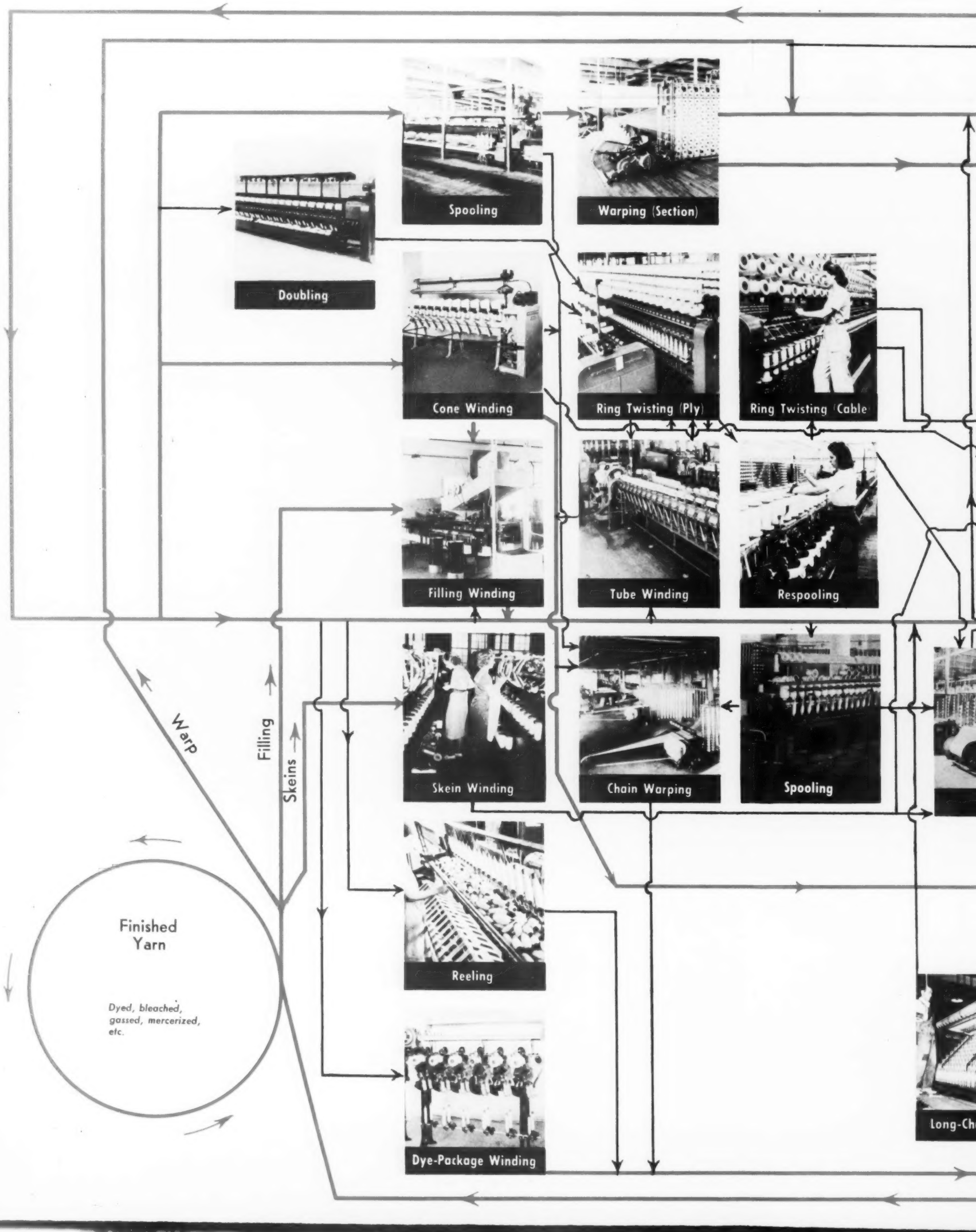
Almost a year ago, TEXTILE WORLD's enlarged editorial staff began work on the material for this wall chart. P. M. Thomas, associate editor; C. M. Bowden, Southern editor; C. Norris Rabold, consulting editor – all men with wide experience in cotton-type mills – laid out the chart and aided G. B. M. Walker, assistant editor, in obtaining the illustrations and in the other problems of producing the chart. Builders of textile machinery were contacted, sent lists of their machines to be included, and invited to comment and supply pictures of the latest, approved equipment.

The cotton branch of the textile industry is so complex that, admittedly, no chart can show all possible variations and combinations of processes that can be carried out. This complexity is intensified by the use of staple synthetics in cotton-type mills, by the spinning of wool on cotton machinery, and by the production of yarns for sale rather than for use within the same plant.

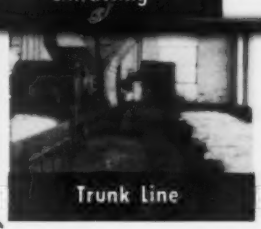
To delineate the main flow for cotton, our art director, R. M. Fink, has used red lines and arrows. Other possible variations are shown by black lines and arrows. For staple rayon and other synthetics, the opening and picking processes are, of course, quite simple; and, at the other end of the line, the scouring, dyeing, and finishing methods selected for these materials are normally among those which treat the goods most gently.–

C. W. BENDIGO, Editor.

Reprints are available from TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y., at 25¢ each – 15¢ each in quantities of 20 or more.



Bale Breaking



Trunk Line

Opening (Buckley)

Arrows show machines in which oiling takes place.

Oil Spraying

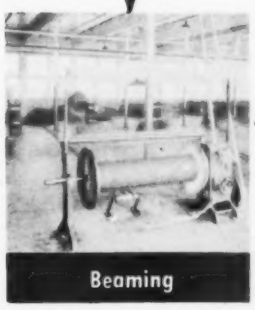
Kier Scouring

Bleaching

Dye Vat

Extracting

Slashing, Weaving, and Cloth Room



Beaming

Slashing

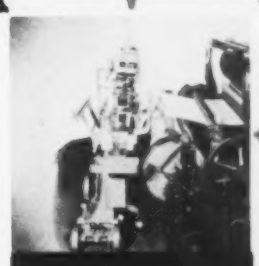
Drawing-In

Sewing

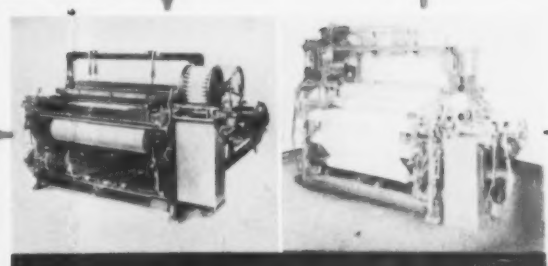
Batching

To Loom as Warp

To Yarn Shipping



Tying In



Weaving

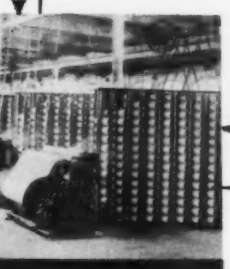
Shearing

Filling Winding

Filling Conditioning

To Loom as Filling

Inspecting



Warping

Warping

To Yarn Shipping

Folding

g-Chain Quilling

Splitting

Ball Warps

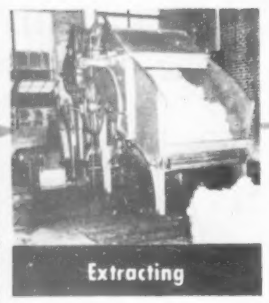
Baling

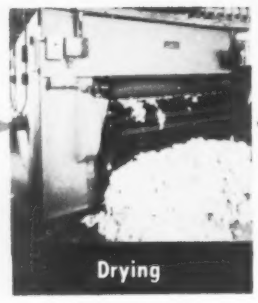
To Yarn Finishing (Dyeing, Gassing, Bleaching,

Breaker Picking

Intermediate Picking

Finisher Picking


Extracting


Drying

Baling

Batching

Inspecting

Shearing

Inspecting

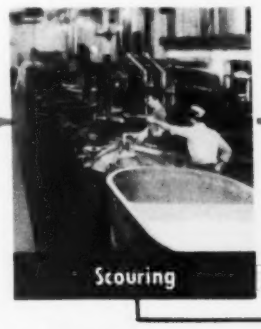
Mending

Folding

Baling

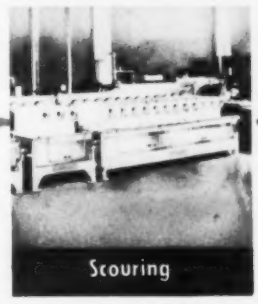
To Shipping

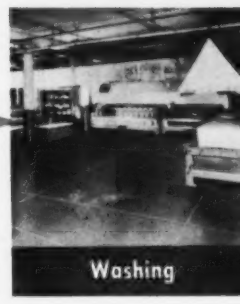
Yarn-Package Dyeing


Scouring

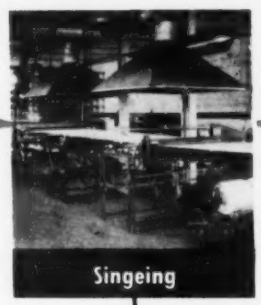
Bleaching

Yarn-Skein Dyeing


Scouring

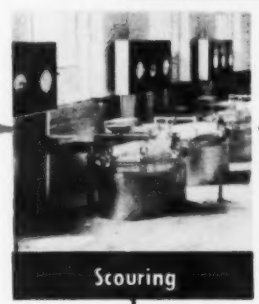

Washing

Ball-Warp Dyeing


Singeing

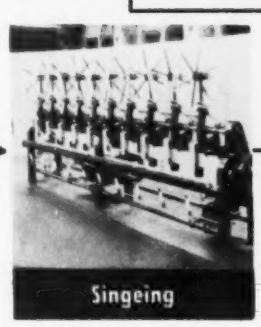
Scouring

Beam Dyeing


Scouring

Bleaching

Yarn Mercerizing


Singeing

Scouring

Gassing, Bleaching, Mercerizing, etc.)

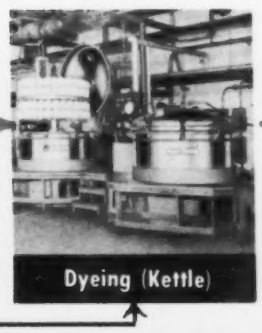
Lap-Back Drawing

From Roving or Spinning Frame

Bonding

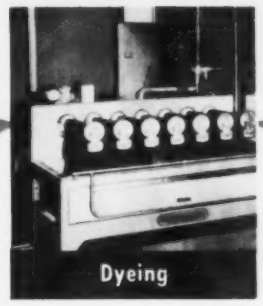
To Shipping

To Piece-Goods Preparation


Dyeing (Kettle)

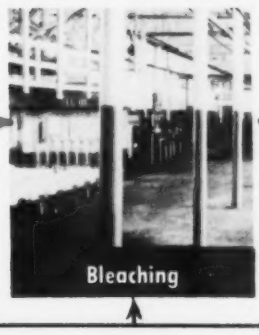
Extracting

Drying


Dyeing

Extracting

Drying

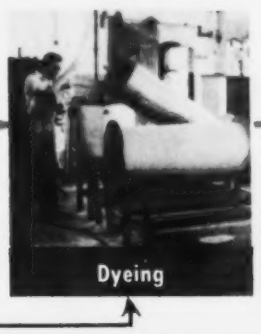

Bleaching

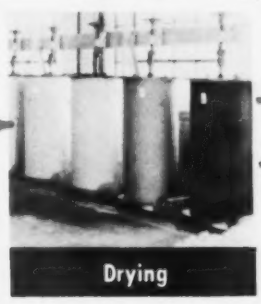
Dyeing

Splitting

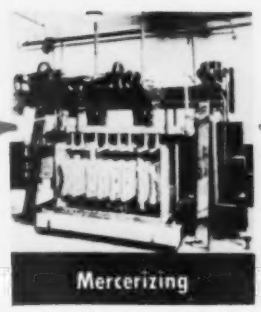
Drying

To Shipping


Dyeing


Drying

Bleaching

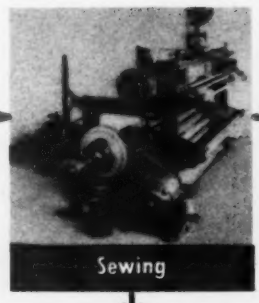

Mercerizing

Washing

Drying

TEXTILE WORLD'S COTTON FLOW CHART

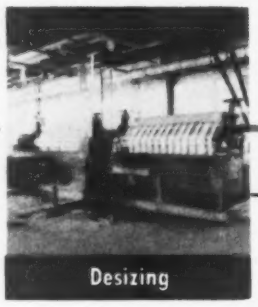
Piece-Goods Preparation

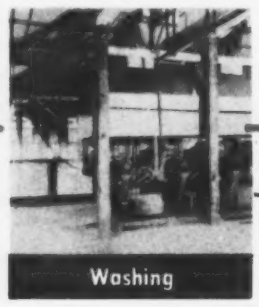

Sewing

Inspecting

From Cloth Room

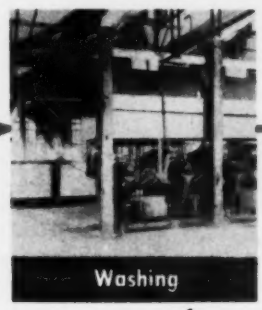
Continuous Rope


Desizing


Washing

Caustic Saturating

Steam Storage

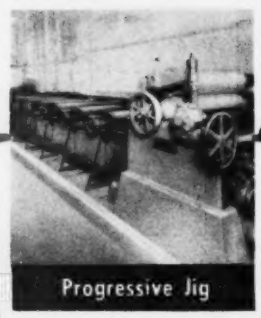

Washing

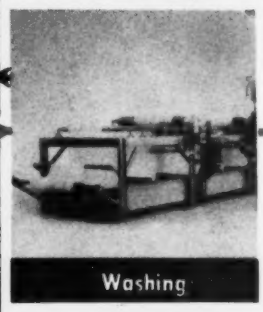
Open Width

Desizing

Scray

Washing


Progressive Jig


Washing

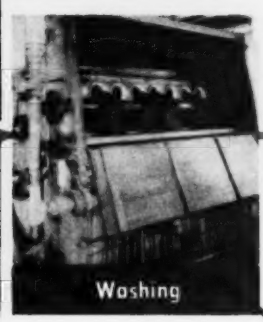
Rope (Kier)

Squeezing
for Acid or Desize

Washing

Kier Piling

Kier


Washing

Mercerizing

Scutching

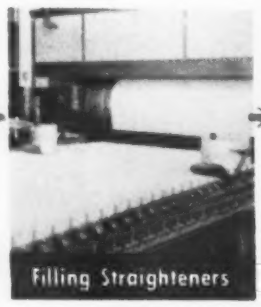
Water Mangle

Scray

Caustic Padding

Mercerizing

Printing and

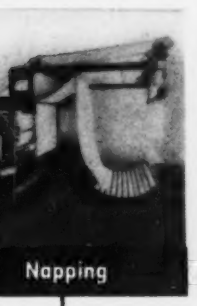

Filling Straighteners

Tentering

Brushing

Printing

ion for Dyeing, Printing, and Finishing


Napping

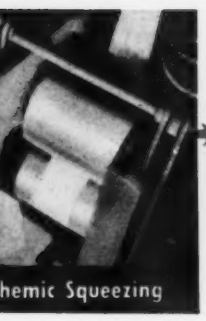
Singeing

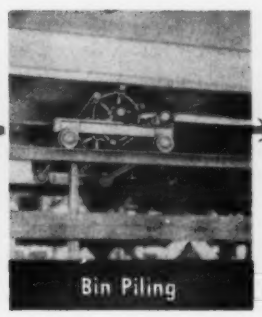
(Spun Rayon)

Saturating

Steam Storage

Washing


hemic Squeezing

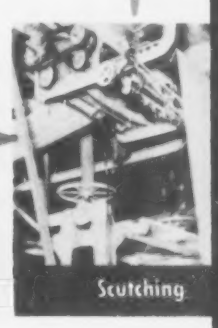

Bin Piling

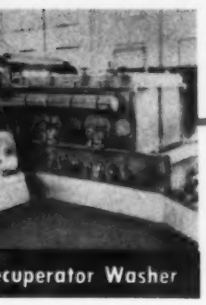
Washing

Squeezing (Acid)

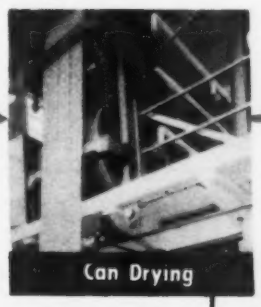
Washing

White Bins


Scutching


ecuperator Washer

nd Finishing


Can Drying

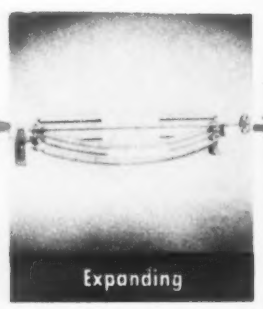
Ageing

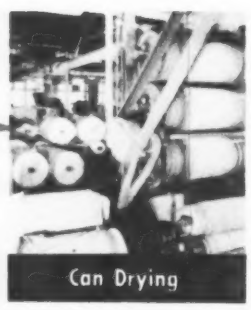
Rope Washing

Drying

Drying After Preparation

Scutching


Expanding


Can Drying

Loop Drying

Air-Lay Drying

Process Selection

Direct Colors
Open Width or Rope
Pad, Pad-Jig, Jig, Kettles, Becks

Developed Colors
Open Width or Rope
Jig, Kettles, Becks

Sulphur Colors
Open Width
Jig, Continuous

Naphthol Colors
Open Width
Jig, Continuous

Pigment Colors
Open Width
Pad

Leuco-Ester Colors
Open Width or Rope
Pad-Jig, Jig, Continuous, Kettles, Becks

Vat Colors
Open Width or Rope
Pad-Jig, Jig, Continuous, Kettles, Becks

Open Width

Color Padding

Plating

Winding

Color Padding

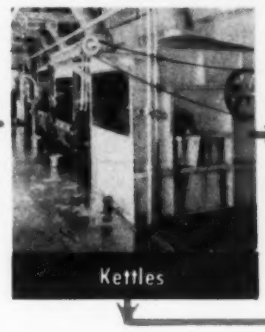
Continuous

Pigment

Drying

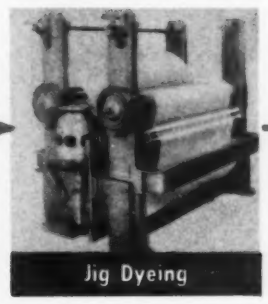
Oven Cur

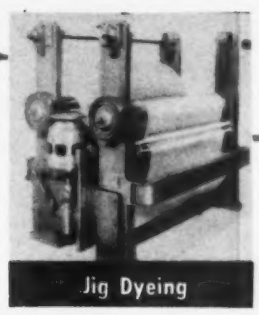
Rope

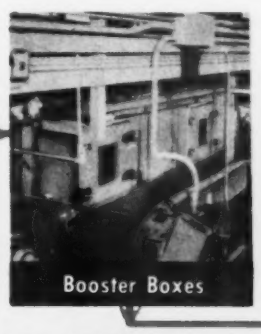

Kettles

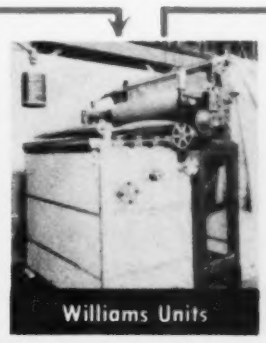
Dyeing

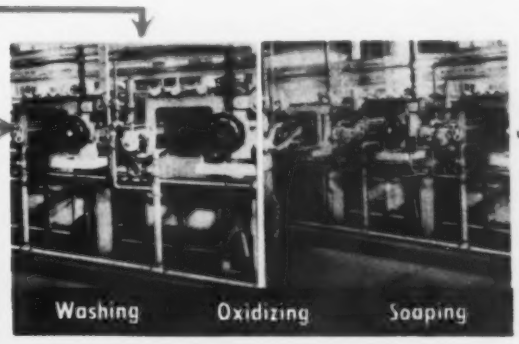
Piece-Goods Dyeing

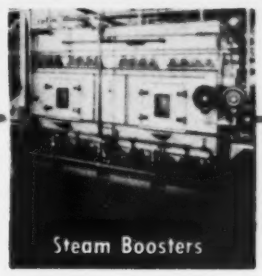


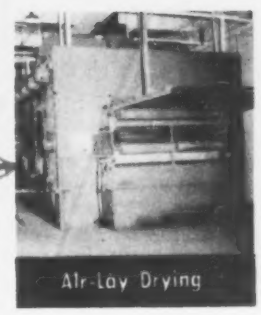


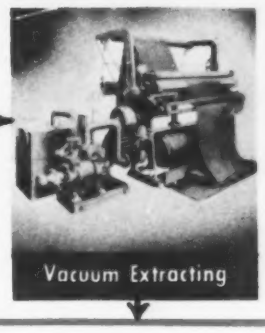












Finished Goods Inspecting, Packing, and Shipping

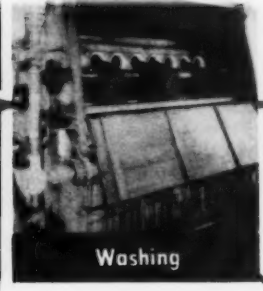
Rope
(Kier)

Squeezing
for Acid or Deuze

Washing

Kier Piling

Kier

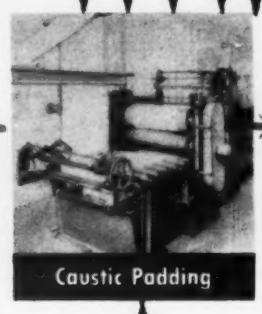

Washing

Mercerizing

Scutching

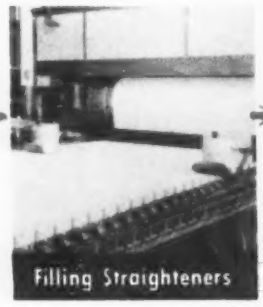
Water Mangle

Scray


Caustic Padding

Mercerizing

Printing an


Filling Straighteners

Tentering

Brushing

Printing

Starch Mangle

Backfilling

Friction Mangle

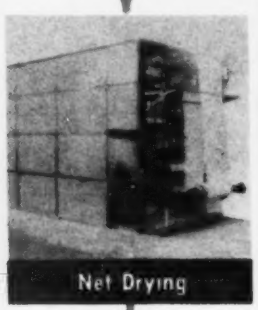
Can Drying

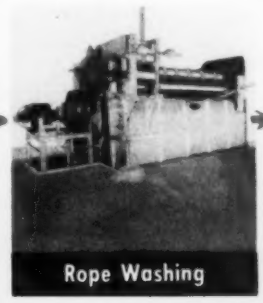
Air-Lay Drying

Loop Drying

Hot-Flue Drying

Tenter Drying

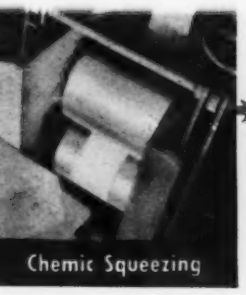

Net Drying

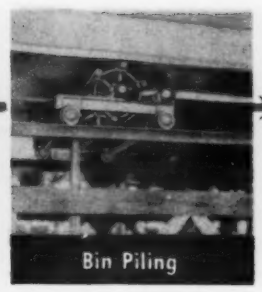

Rope Washing

Open Width

Oven Curing

Pad-Jig, Jig, Continuous, Kettles, Becks


Chemic Squeezing


Bin Piling

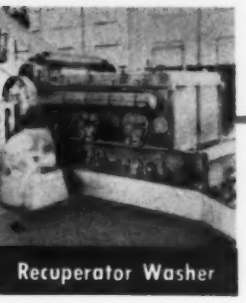
Washing

Squeezing (Acid)

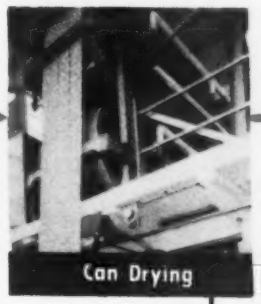
Washing

White Bins

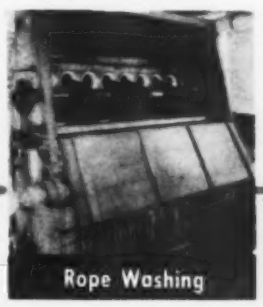
Scutching


Recuperator Washer

and Finishing


Can Drying

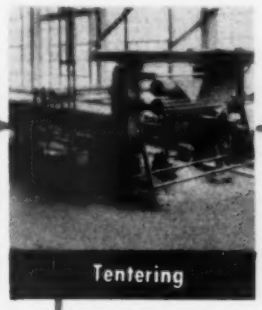
Ageing


Rope Washing

Drying

Continuous Washing

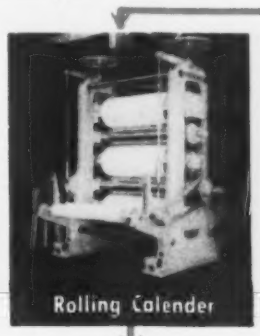
Drying


Tentering

Sanforizing

Spray Dampening

Brush Dampening


Rolling Calender

Chasing Calender

Friction Calender

Screine

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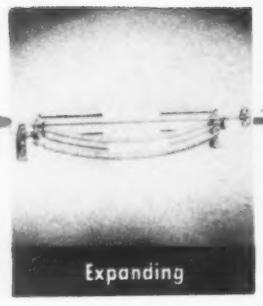
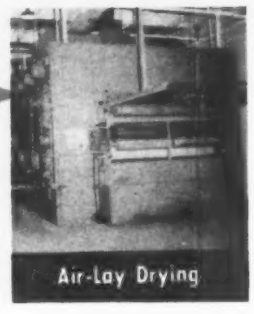
Scutching


Expanding

Loop Drying


Air-Lay Drying

Pad-Jig, Jig, Continuous, Kettles, Becks

Vat Colors

Open Width or Rope

Pad-Jig, Jig, Continuous, Kettles, Becks

Color Padding

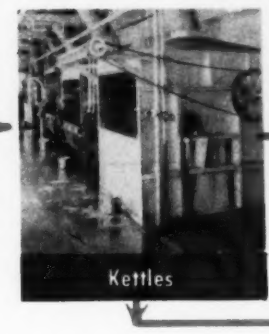
Continuous

Pigment

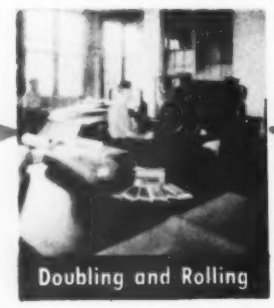
Drying

Oven Cu

Rope

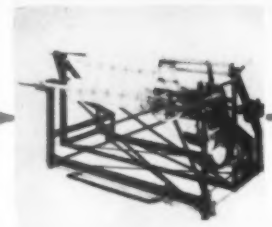

Kettles

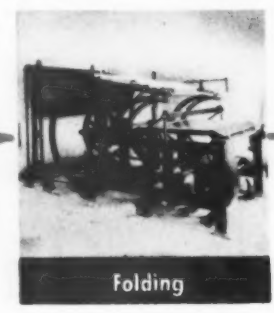
Dyei


Doubling and Rolling

Shading

Ba


Cloth Winding


Folding

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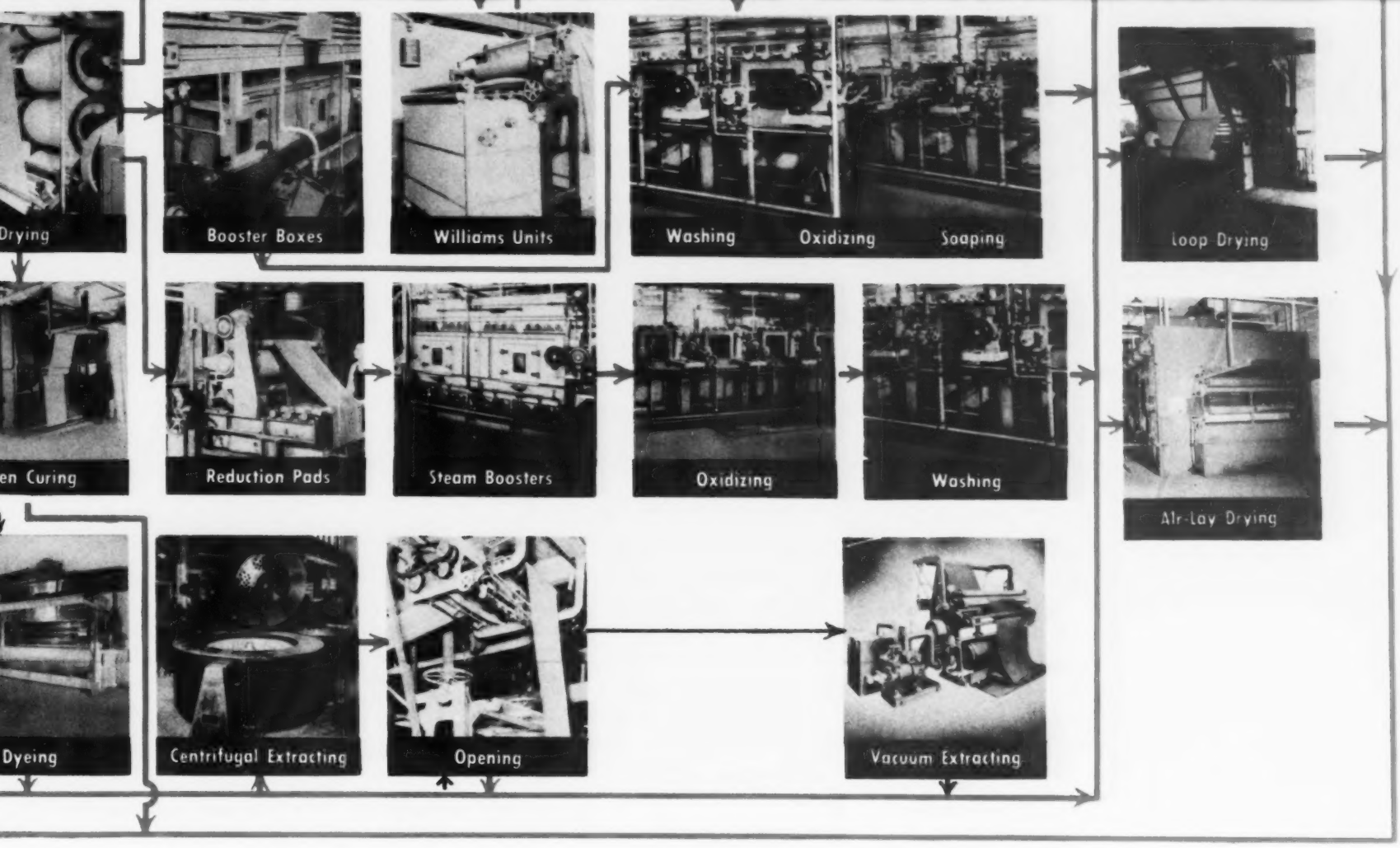
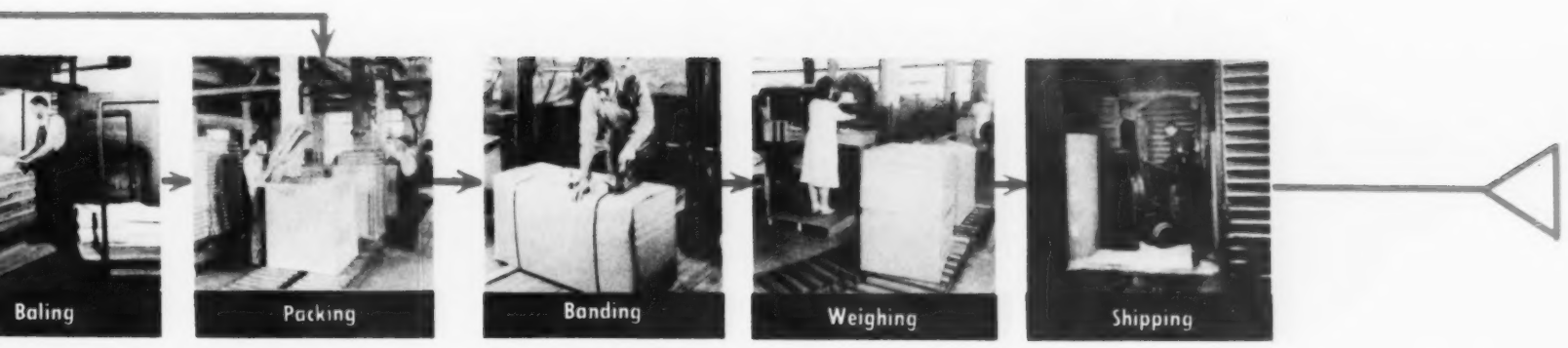
Screiner Calender

Charmeuse Calender

Button Breaker



Finished Goods Inspecting, Packing, and Shipping



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THE CLOSED SHOP

Key to Labor Monopoly

IF THE PEOPLE of the United States are to loosen the monopoly control now exercised by some segments of union labor and recapture the power to control their own economic and political destiny, they must come to grips with the problem of the closed shop. A satisfactory solution of that problem is as vital to the interests of the wage earner, who should be fully protected in his right to organize and bargain collectively through representatives of his own choosing, as it is vital to the interests of the nation as a whole.

By the closed shop, which unfortunately is a term that seems to shed more heat than light, I mean any shop in which the worker must make his peace with a union in order to have a job. There are approximately 13½ million union members in the United States. Of these about 10 million are governed by arrangements calling for "closed" shops, union shops, maintenance of membership provisions and similar devices which make good standing in a union a condition to holding a job.

Such arrangements raise serious issues about what is commonly presumed to be the basic American right to work. Also, closed shop arrangements lie at the root of the dominant economic power now exercised by some labor leaders.

The problem of reducing the power of these labor leaders to proportions that make it safe for democracy is the age-old problem of monopoly. In an earlier era this problem was created largely by businessmen who sought to escape the restraints of competition by combinations or agreements to control prices and production. Such efforts are still attempted and must be curbed by law.

Union Labor Monopoly

But, after more than a decade during which a monopoly position for organized labor has been aggressively promoted by the federal government, the major monopolists today are those labor leaders who wield the power of enormous nationwide unions. About 90% of the soft coal miners do the bidding of John L. Lewis. A like percentage of the auto workers are represented by the United Automobile Workers of the C. I. O. About 80% of the production workers in steel are members of the United Steel Workers, C. I. O. No single corporation has more than a fraction of the economic power that is concentrated in these unions. And if corporations were to combine their power to cope effectively with that of these union monopolies they would unquestionably find themselves charged with violating the federal antitrust laws.

In its national sweep, the monopoly power of unions rests largely on their exemption from the federal antitrust laws. My previous editorial in this series (the 53rd) discussed the desirability of removing that exemption. The local roots of this monopoly power are often embedded in closed shop arrangements.

Closed Shop in Coal

An illuminating case in point is provided by the United Mine Workers, whose leader John L. Lewis has graciously given the country a 3½-month reprieve from "the hysteria and frenzy of an economic crisis," as he himself termed it. During that latest crisis the dispatches from the soft coal fields reported that the miners were standing behind John L. Lewis almost to a man. And the implication usually was that the driving forces of the strike were loyalty to Lewis and the prospect of economic gain.

Underlying that performance, however, and basic to it was an agreement in the soft coal fields providing that "as a condition of employment all employees shall be members of the United Mine Workers." Hence to hold a job in 90% of the soft coal industry which is governed by contracts with the United Mine Workers, a miner must not offend the union. To avoid offense the union member must even be careful in criticising what his union

does. *Suspension from the union for six months, and hence from the right to hold a job,* is the penalty imposed by the United Mine Workers constitution for circulating a statement "wrongfully condemning any decision rendered by any officer of the organization."

The willingness of the miners to follow Lewis until the country froze over was not, of course, exclusively a product of the agreement limiting jobs in the coal fields to union members of good standing. Some of it originated in bad handling of employee relations in the coal fields in years gone by. But the fact remains that Lewis' soft coal monopoly has as one of its principal foundations an agreement which gives the United Mine Workers a job-or-no-job hold on 90% of the soft coal miners.

In its extreme form, the closed shop not only makes union membership a condition of employment but narrowly limits the numbers admitted to union membership and hence to the opportunity to work. In this way it is used to enforce restriction of output and working rules which would never stand up under free competition.

Fair Dealing

The closed shop raises major issues of personal freedom and fair dealing between individuals. As matters now stand, closed shop agreements require employers to discharge workers who lose their good standing in the unions involved. At the same time they frequently impose no requirement on unions to grant membership to law abiding and technically qualified persons. Many unions with closed shop agreements refuse to grant membership on the basis of competence. Thus, qualified workers are denied a fair chance to hold a job.

In its dealings with the closed shop issue the federal government has been pushed into a self-contradictory position. The National Labor Relations Act (the Wagner Act) provides, and properly, that "employees shall have the right . . . to bargain collectively through representatives of their own choosing." In furtherance of that basic proposition, the Wagner Act also provides that "It shall be an unfair labor practice for an employer . . . by discrimination in regard to hire or tenure of employment to encourage or discourage membership in any labor organization . . ." Standing alone, the provision would clearly outlaw the closed shop.

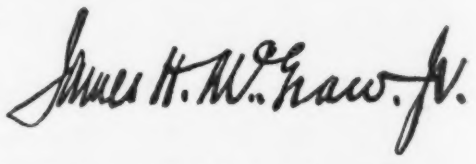
But then, to favor the closed shop, the Wagner Act turns right around and provides that "nothing in this Act . . . shall preclude an employer from making an agreement with a labor organization . . . to require, as a condition of employment, membership therein," provided that certain conditions of representation are fulfilled. This places the National Labor Relations Board in the impossible position of trying to administer a law which simultaneously points in opposite directions.

In successfully contending that there should be no closed shop arrangements on the railroads, the late Joseph Eastman, Federal Co-ordinator of Transportation, said, "If genuine freedom of choice is to be the basis of labor relations under the Railway Labor Act, as it should be, then the yellow dog contract and his corollary, the closed shop . . . have no place in the picture." The so-called yellow dog contract, which requires a worker to agree not to join a union as a condition of employment, has long since been outlawed.

At one time the closed shop was defended as a protective device for feeble young unions struggling against predatory employers. But a mere glance over the current economic scene discloses that the time when that argument was supported by the facts is past. Now it is the labor leaders who frequently exercise decisive economic power.

At elections in November three more states, Arizona, Nebraska and South Dakota, passed constitutional amendments outlawing the closed shop. In doing so, they joined six other states, which, in one way or another, have restricted the closed shop. The South Dakota amendment presented the basic issue created by the closed shop in simple and direct terms when it declared that "The right of persons to work shall not be denied or abridged on account of membership or non-membership in any labor union, or labor organization."

That issue must be squarely faced by the new Congress if its first order of business, the labor crisis, is to be resolved.



President McGraw-Hill Publishing Company, Inc.

MATERIALS-HANDLING COST

Offers Opportunity For Savings

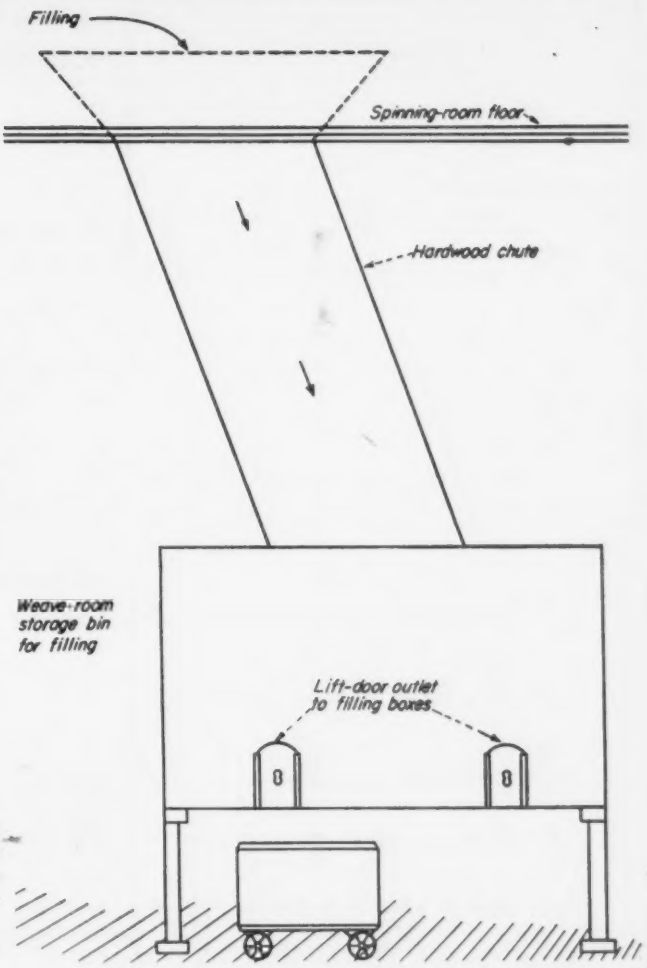


Fig. 1. This chute of hardwood is used by one mill to convey filling from the spinning room to a weave room below. Adequate storage space is provided by the wall bins on the weave-room level. The installation saves a considerable part of the $380 per-week former cost for handling filling.

HIGHLIGHTS: *Survey of a 40,000-spindle mill shows actual inter-process transport cost of $1,865.00 per 120-hr. week—Estimate of materials-handling cost within the processes totals $10,054.45 weekly — Costs point way to materials-handling progress—Mechanized equipment for speedier and more economical handling needed.*

By C. MALLARD BOWDEN,
Southern Editor, TEXTILE WORLD

A MILL ENGINEER once said that materials handling began in the textile industry when the first strand of roving was fed into the first installation of drafting rolls, or when the original doffer comb picked off a web from the card. Within the broader definition of materials handling, the engineer was probably correct; and any discussion of possible materials-handling improvements should recognize that the textile industry—with its doffer combs, coiler heads, long-draft conveyor aprons, automatic spoolers and winders—is probably the outstanding user of efficient and, in some instances, unique materials-handling devices.

However, the multiple processes required by the conversion of fiber into yarn and cloth have naturally brought about an emphasis on mechanized and semi-mechanized handling of stock between these processes, such as laps from pickers to cards, warps from slashing to weaving, and cloth rolls from weaving to inspecting. In some instances, improved techniques are sought within the processes themselves; and improvements now in development by mills and equipment builders are expected to reduce further the cost of stock handling.

TREND IN MATERIALS HANDLING. Thus, the trend among larger mills is to visualize materials handling as a problem involving both inter-process and process handling; and this perspective is the one most likely to result in maximum benefit. Some mills have centralized all materials handling under an industrial engineer who, by virtue of work-simplification training, may be expected to develop speedier and more economical methods of transporting and handling. In most mills, however, the problems are handled by the plant engineer, the overseer, or the superintendent.

The experience of mills which have succeeded in improving materials handling indicates that a thorough analysis of inter-process and process handling should be undertaken as a first step toward improvement. Flow charts showing process and inter-process travel in feet, and dollars spent may be condensed into a general, mill-wide chart which will permit comparisons between the costs of various operations. With adequate data on present methods and present costs, the engineer or superintendent can determine the need and practicality of proposed improvements.

WHAT DOES MATERIALS HANDLING COST? While the statistics shown in the imill-wide analysis of materials-handling costs, Fig. 2, cannot be applied generally, they are striking evidence of what may be accomplished in this particular layout by a thorough application of materials-handling techniques and of the possibilities that may lie ahead of the current serious effort in the industry to apply mechanized and semi-mechanized handling wherever possible. The figures show unmistakably that semi-mechanized handling in spooling, warping, slashing, and weaving has lowered costs; and they suggest that savings can be

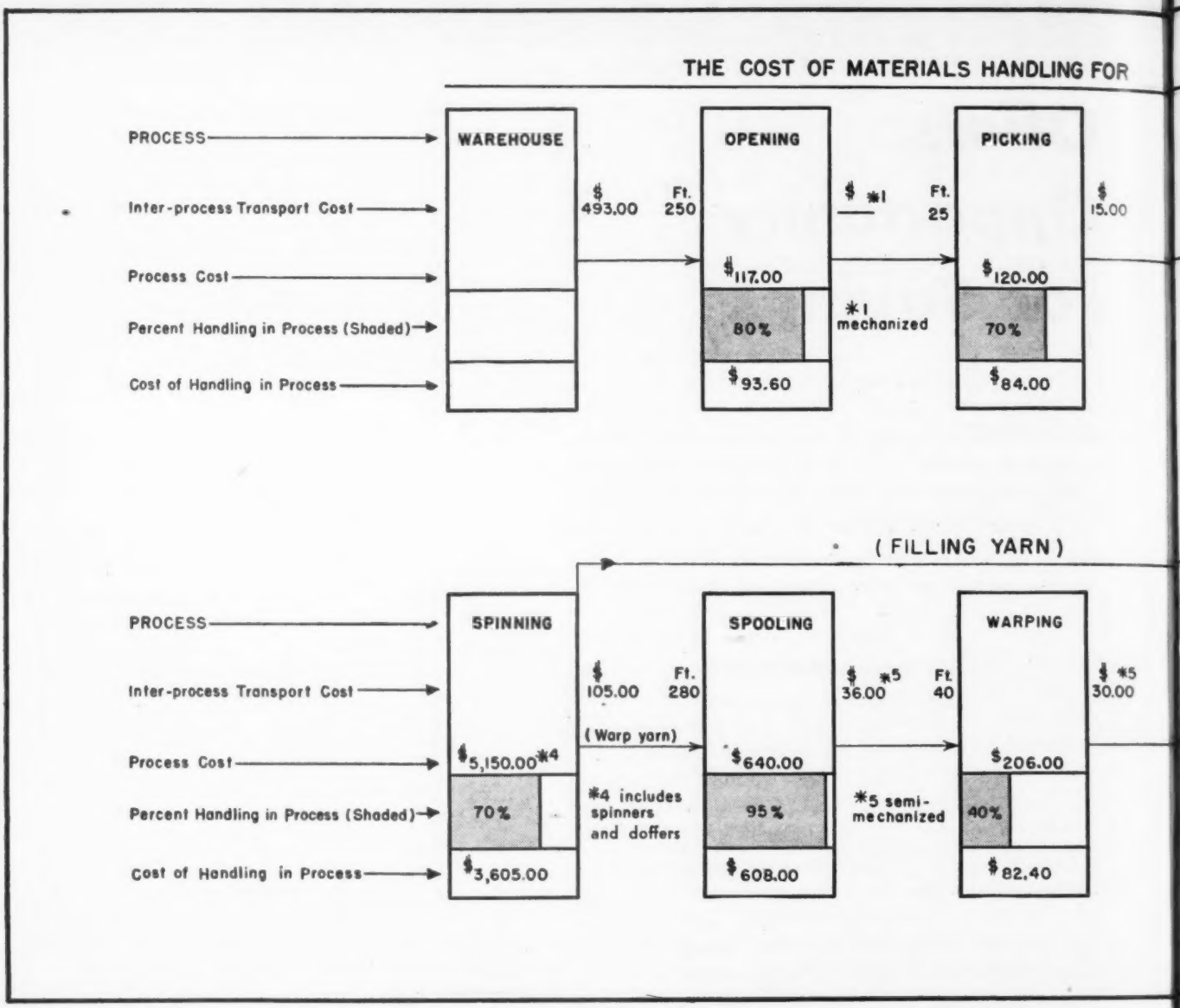


Fig. 2. This summary of mill-wide inter-process and process handling costs is based upon actual payroll figures of a 40,000-spindle mill for 120 hr. of operation. A similar breakdown of transport and handling costs for a particular mill could prove invaluable as a guide to possible handling improvements and serve as a long-range goal for a materials-handling program.

obtained also in warehouses, card rooms, spinning rooms, weave sheds, and cloth rooms by better handling methods.

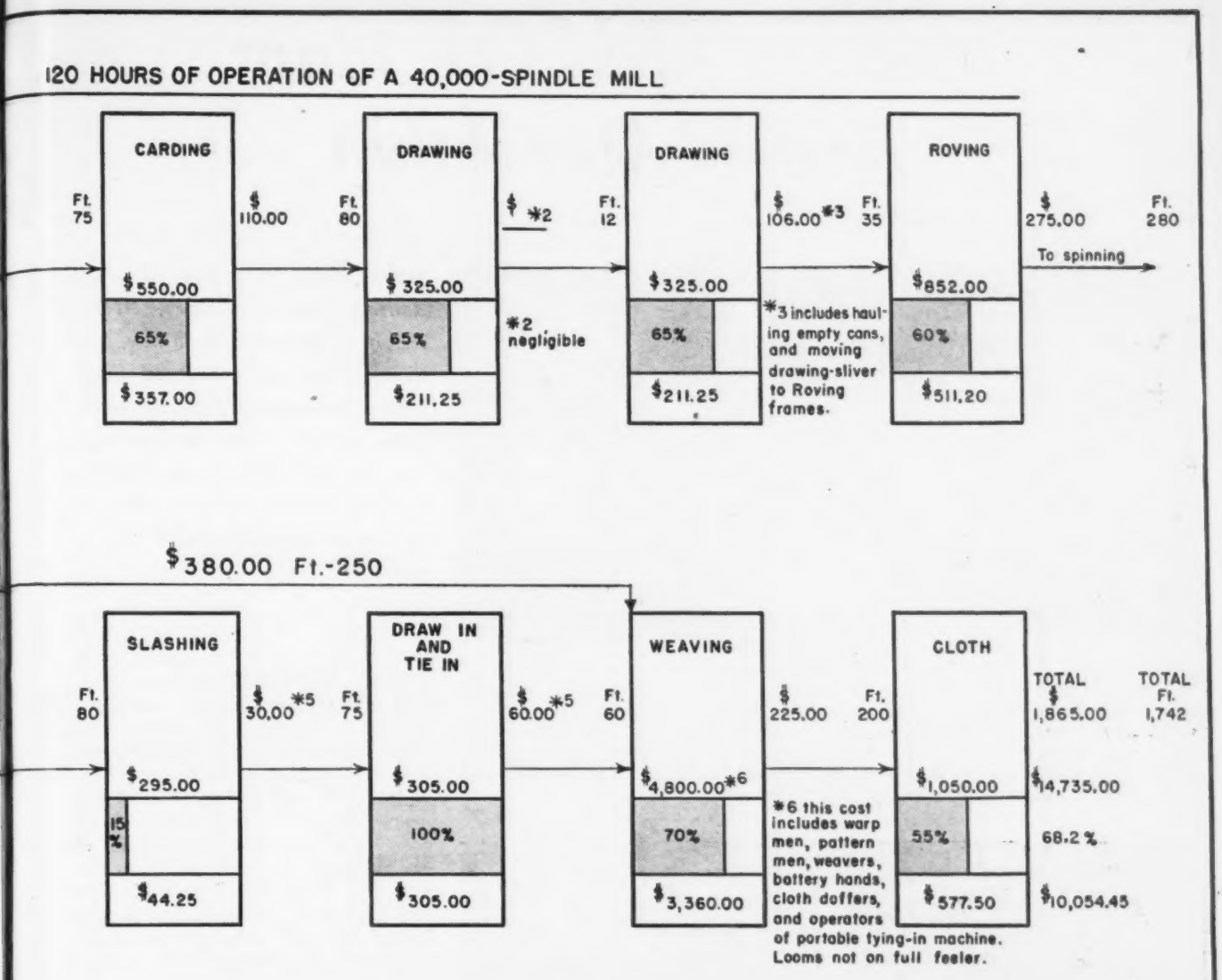
The analysis, based upon actual and estimated costs of operating a 40,000-spindle mill for 120 hr., shows the mill processes in block form, with inter-process costs and feet traveled between the blocks. Within each block is the cost of operating that particular process or machine, and immediately under the process cost is the estimated percent of handling required by the process or machine. The dollar cost of handling within a process is immediately under the corresponding block.

In the spinning block, for example, the actual cost of the process is $5,150.00 per 120-hr. week. The figure is obtained by adding the spinner and doffer payrolls for the week, and it represents the total direct charge to this process. The amount of handling done within the process, such as creeling and doffing, is estimated at 70% of the total, leaving a remaining 30% for cleaning, repairing end breaks, etc. No purely indirect operations are included in the cost figures except those which deal with transporting or handling the various mill packages.

COMPARISON WITH OTHER INDUSTRIES. These production figures compare favorably with those of other fabricating industries, particularly in view of the fact that the textile industry, unlike the metals or woodworking industries, does not work with a solid material of established size and shape.

Operators of forming tools such as power brakes, punch presses, and hydraulic presses frequently spend a major percent of their time in handling raw stock or finished pieces, in addition to the lengthy set-up times required by these machine tools.

With statistics applicable to a particular layout, an engineer could establish a definite program of those handling operations of which the present labor costs would permit an adequate return on investments in mechanized handling. In addition to the cost chart, he would require a chart upon which is worked out the amount of investment refundable over a definite period of time. This



length of time should be determined for the engineer so that he may calculate the present and proposed costs against the period of time.

METHODS OF IMPROVEMENTS. Information on the more-or-less standard equipment for materials handling is readily available to superintendents and engineers. Therefore, the methods suggested for improving some of the characteristics of the layout shown in Fig. 2 will be limited to means

(Continued on page 200)

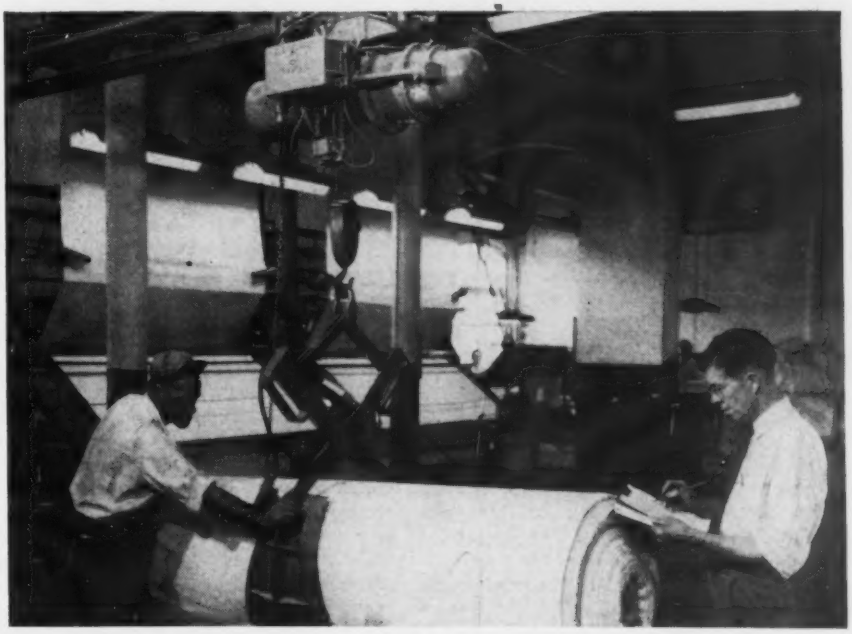
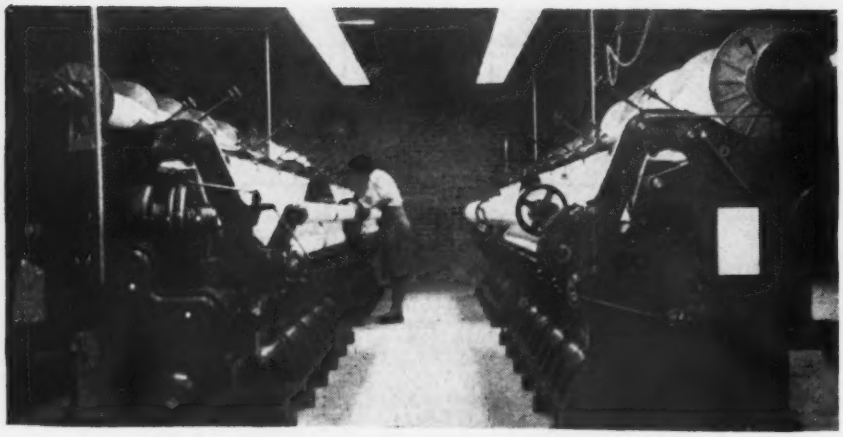


Fig. 3. Self-propelled hoists may be equipped with special handling or holding tools—such as a cloth holder (shown here), a gin-type bale holder, a thread-box holder, etc.—to meet the requirements of particular applications. In many instances these special tools must at present be "tailored" by the mill itself.

Modern TRICOT Plant Begins Operation



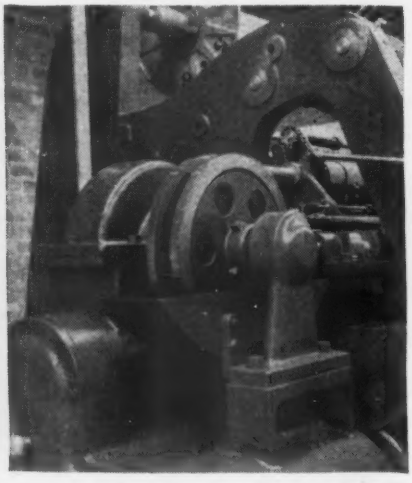
Hornwood's Model-D Aveco machines were built by Warner & Swasey to knit 509 courses per minute. The first four Hornwood machines shown, however, are knitting at less than 509 courses per min. Because the machines are new, the management believes that conservative speeds are preferable for the breaking-in period. Note the pattern wheel (left) which controls the traverse motion, the large American Viscose Corp. spools, and the brake drums for warp tension. The fluorescent lights throw an average of about 32 ft. candles on the area where the operator is working.

HIGHLIGHTS: *Hornwood Warp Knitting Co., Wadesboro, N. C., installs tricot machines in new, windowless, and air-conditioned building — Three-ply roof contains foamglass insulation, and air-pressure controls motivate air-conditioning system — Doffing system of new tricot warper permits use of women employees.*

HORNWOOD WARP KNITTING CO., of Wadesboro, N. C., is one of the postwar examples of a knitting mill which produces tricot fabrics exclusively. Four 28-gage Aveco machines, built by Warner & Swasey, are now operating on quality acetate dress goods; and a total of 24 machines of various types is expected to be installed in the mill. Cocker Machine and Foundry Co.'s new tricot warper is used for direct warping when necessary. Some yarn is purchased on large magnesium spools (or beams).

The Hornwood building is new, completely windowless, air conditioned, and flourescent lighted. The concrete floor is of the floating type, which means that it is not tied in with building or building supports. Special hardeners in the concrete are said

The drum-type tension shown above acts as both tension and let-off for the warps (or spools). The top drum controls the top warp which is drawn to the front guide bar, and the bottom drum controls the bottom warp which is drawn to the rear guide bar. Both are rod and pawl actuated and are synchronized with the knitting motion. There are 168 grease nipples on the Model-D Aveco. The rod which runs from the main shaft to the left is the take-up drive. Control knobs are located on the take-up drive to facilitate the adjustment of the take-up. The production counter shown in the photograph records the number of racks (480 courses) in units and decimals as they are made by the machine.



The traverse of the guide bars parallel to the needles is controlled by pattern wheels shown running in an oil bath. Since the warp ends are drawn through the guide bars, the traverse of the bars controls the tricot stitch-formation. Note that the Aveco is a two-bar machine and has two pattern wheels. (Other tricot machines may have one, two, or three bars). Rollers at the end of each bar receives motion from the pattern-wheel steps which are minutely accurate "rises" spaced upon the outer surface of the wheel. The width of traverse is obtained by the height of the various steps on the pattern wheel, and pattern wheels of varying step-spaces may be used. The cams for needle, presser, and sinker bars are underneath.

The Magic Name-TRICOT

Textile men are following the trend toward large-scale tricot manufacture with keen interest, since tricot knitting, while old, has received intensive and recent study from machinery builders, textile manufacturers, and the general public. One of the newest all-tricot plants is Hornwood Warp Knitting Co., at Wadesboro, N. C. Hornwood is headed by Kenneth W. Horne, vice-president, and Fred D. Wood, manager, E. E. Connor heads the Hornwood Sales Corp. with headquarters in New York.

A closeup of cloth and sand rolls shows the take-up motion of the new Aveco tricot machine. Sand rolls similar to those used on looms and a steel cloth roll (wound bare without paper tube) are the principal parts. The takeup is adjustable. ➡

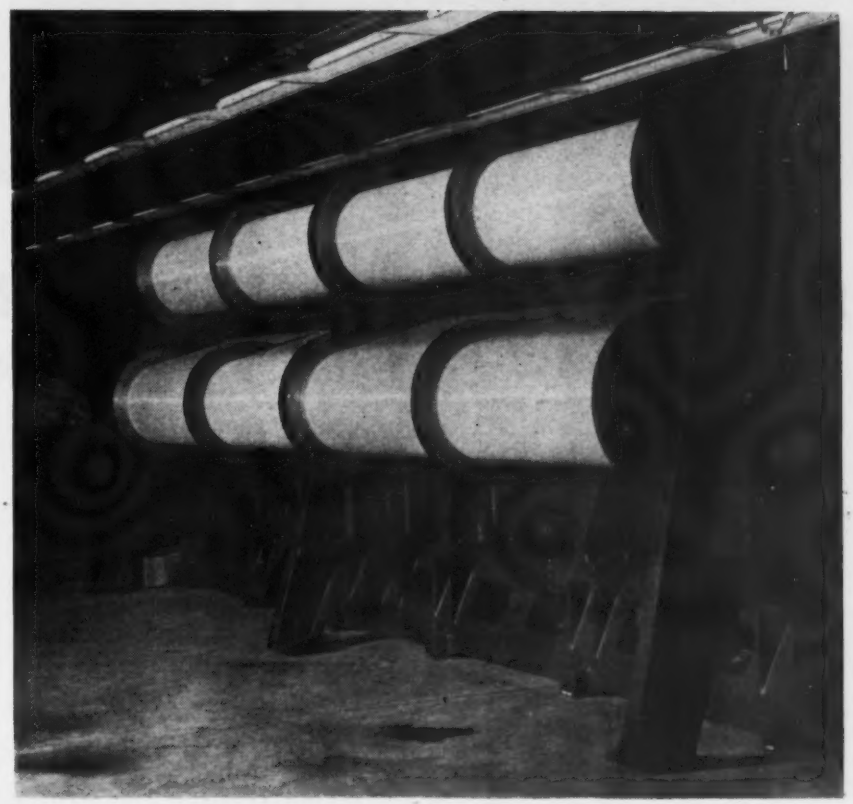
to give a permanent finish to the floor, although floor areas adjacent to machines may be covered with industrial floor materials at a later date. The three-ply roof consists of 2 in. of wood, coat of tar, 2 in. of foamglass insulation, another coat of tar, and a final 2 in. of tar and gravel.

AIR CONDITIONING. Bahnson's air-conditioning system at Hornwood's Wadesboro mill is said to be designed for a temperature variation of 2 to 3° the year round. Refrigeration, air-washing, and steam heating are used by the system, as necessary, to condition the air which moves to the plant and offices through conventional ducts.

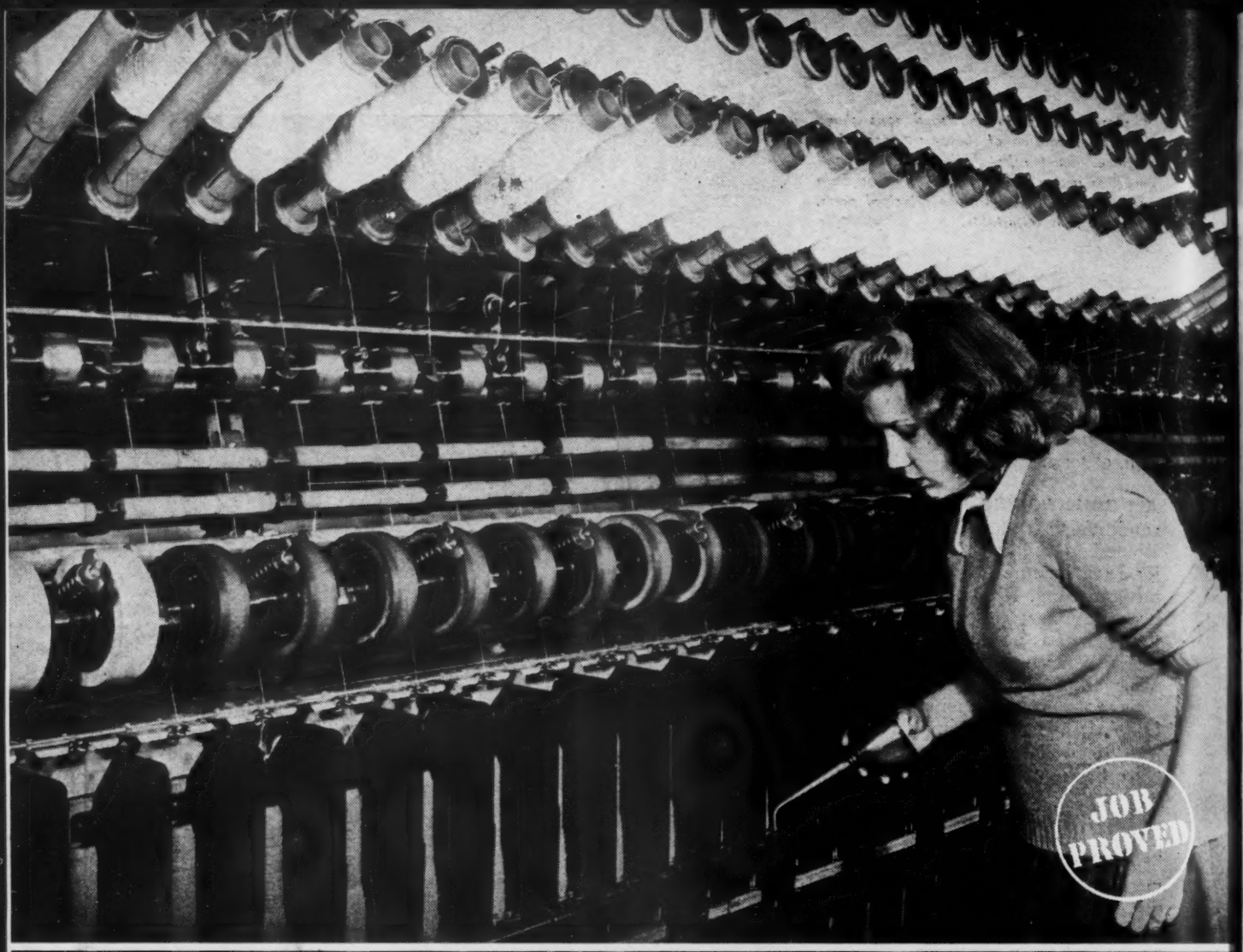
Separate air-conditioning controls for plant and office permit a flexible plan of conditioning. For example, office areas may require less humidity or more heat than the plant because of the lack of machines and the less active character of the work performed. Separate controls permit the management to vary the air conditioning to suit office or plant conditions. Lavatories are supplied with Modine heaters, so that these areas may be heated separately, since air-conditioning ducts do not enter these rooms.

AIR PRESSURE CONTROL. The air-conditioning controls are actuated by air pressure rather than by electrical devices. Compressed air, generated by a small compressor, is fed through ¼ in. tubes to operate the piston-type controls on dampers as well as on steam and spray valves. Thermostats and humidistats, located in the ducts, are sprayed constantly with air from the knitting room, so that quick adjustments in the air may be made.

There are no doors from the knitting room to the lavatories, only open passageways which lead through an anteroom to individual toilet facilities. The anteroom is provided to permit employees to smoke or relax during spare moments. Unlike the



A view of the Aveco creel which shows the large 21 x 42 in. spools. Above the creel is a chain hoist for handling the spools. Spools are light magnesium, but handling will be mechanized further when necessary equipment arrives. Conventional spools have 13¾ in. diameters. ➡



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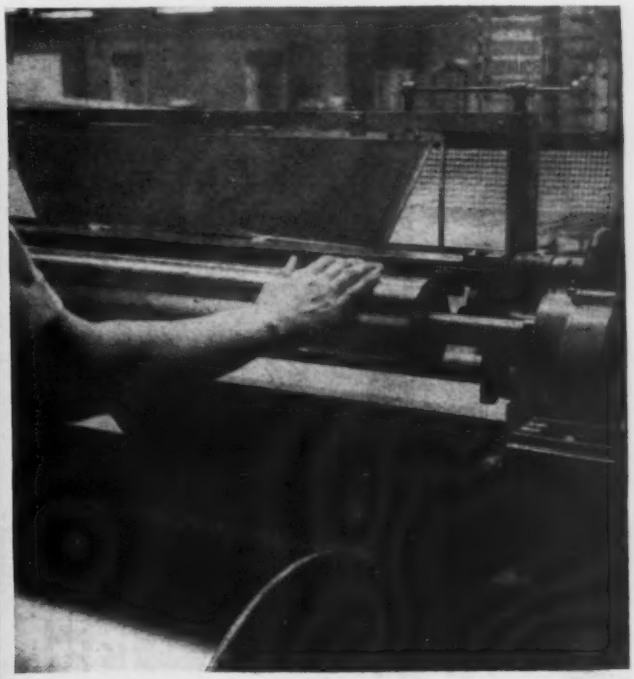
conventional closed lavatory, the open type does not encourage abuse of the smoking privilege, since the open rest room is visible from most areas of the knitting room.

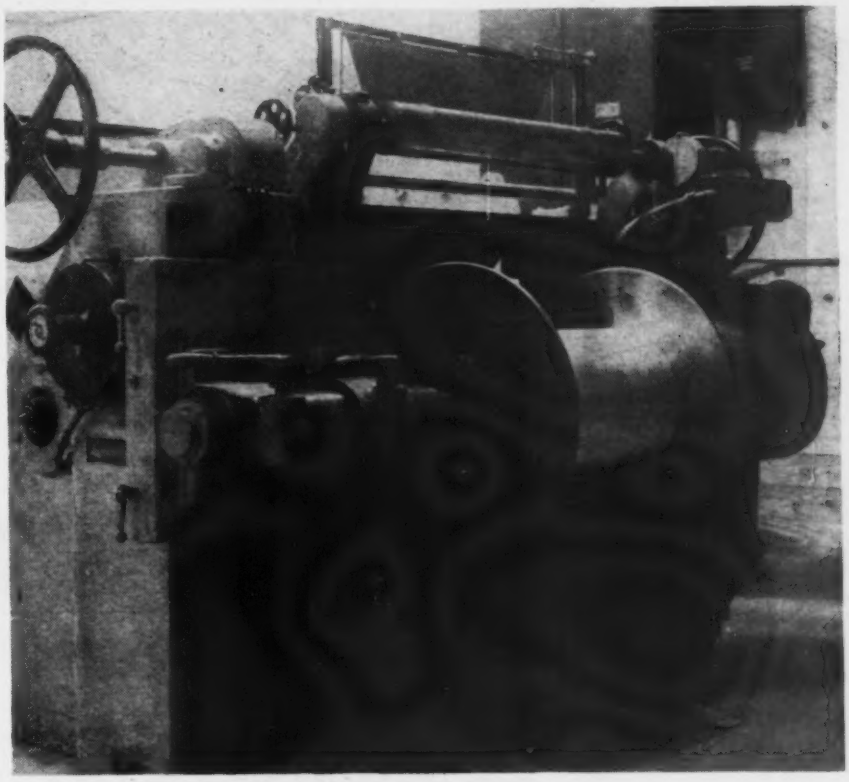
The Cyclotherm steam generator, which is oil-fired and housed in a separate basement room, provides the heat for the plant, offices, and lavatories. The generator has a 30-horsepower rating, and produces 1,000 lb. of steam per hr.

Textile World Staff photos

The operator is creeling a cone of acetate filament yarn in Cocker's new tricot warper. The warper has 30 posts per side and 10 positions per post. Note the eyeboard type of stop motion used. The positive and negative bars which actuate the warper stop are unsheathed and relatively open, thus permitting easy cleaning, it is said.



A closeup of the warper comb as the operator prepares to pull through the ends which have been tied off. Note that comb and delivery roll have been cleaned, an important function when filament acetate yarn is being warped.



Hornwood's tricot warper from the front view shows a partially filled spool which is to be doffed. Winding and doffing are said to be unusually efficient. Sliding chucks, locked into position, hold the spool during winding, and the presser roll (not visible in this photograph) is automatically controlled to maintain the correct tension on the spool. Presser rolls on new tricot warper are made of laminated fiber; some of the other types of presser rolls require felt covers. As the yarn fills the spool, the winding system automatically adjusts the pressure, so that warp tension is constant throughout the length of the warp—a factor which is said to improve the running quality of warps during knitting. No manual lifting of full warps is required at Hornwood, and women are able to do all of the tricot warping operations. When it is necessary to doff a warp, the operator loosens four hand screws; and the beam glides to the floor under its own weight. The chucks are then removed, and the warp is rolled down a platform to storage.

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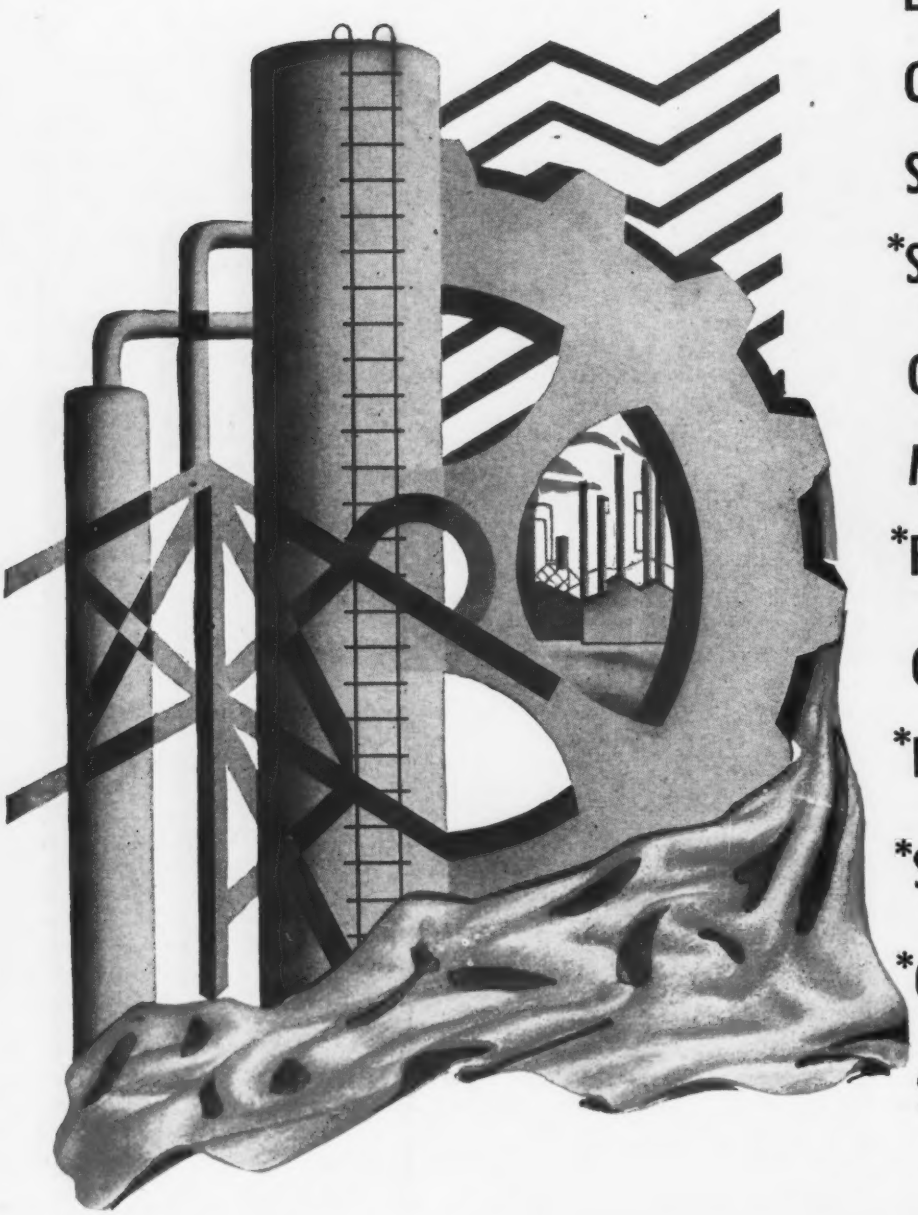

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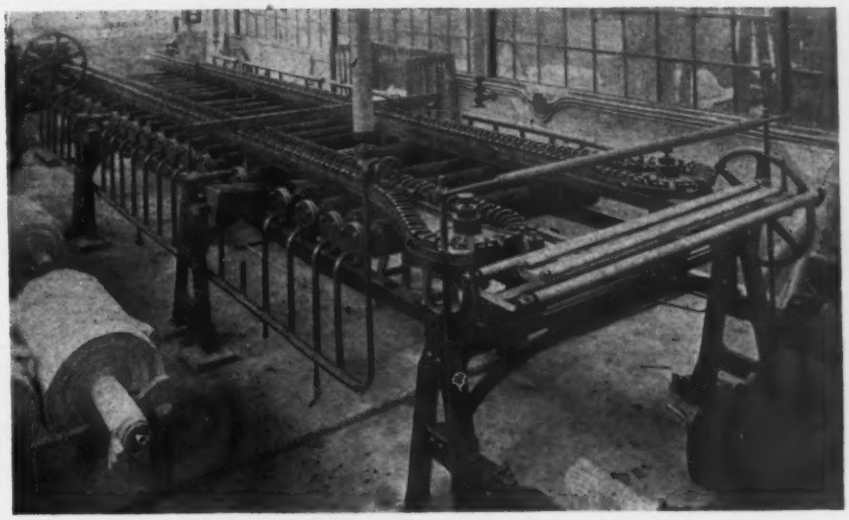
High-Temperature WATER Is Efficient Heat Carrier

HIGHLIGHTS: *Equipment for new system is much simpler than that customary for handling steam—Numerous applications abroad in textile finishing — High-temperature water (or other fluid) is used in closed system with pump for circulation—Savings in reduced heat loss and lower maintenance are claimed.*

By VICTOR R. FREEMAN, M. E.
American Hydrotherm Corp., New York



Tenter frame equipped for use of high-temperature water permits high output. Note line-up of finned pipe surfaces for delivering the heat.

OPERATING ENGINEERS responsible for textile-mill steam installations have for years been involved in mazes of reducing valves, strainers, traps, condensate tanks, boiler feeding, and make-up water equipment. Some engineers have despaired over attempts to improve the economy of steam utilization and have wondered whether steam is really the final answer to heating problems, particularly in textile process applications.

A substitute medium for distributing heat is available in the form of water (or other fluids) at high temperatures. Systems have been successfully operated using water at 300° to 400° F. and at corresponding pressures as a heat carrier instead of high or low pressure steam. This high-temperature-fluid heating has direct applications in nearly all processes involved in the dyeing and finishing of cotton, wool, rayon, and silk goods; and, in the minds of some, these applications produce superior results. It has been applied abroad to tenter drying, jig and dye-vat heating, and in calenders.

PRINCIPLE OF OPERATION. In order to generate hot water of more than 212° F., the pressure in the generator, which corresponds to the desired temperature, must be reached. The fluid for this purpose must therefore be heated in an entirely closed system. Any conventional steam boiler can serve as the hot-water generator. Special high-temperature-water, direct-contact generators may be used for transforming exhaust or bleeder steam from engines or turbines into high-temperature water. In use, the water is drawn from the boiler or generator by means of immersion tubes; and it flows, usually, through well-insulated pipe lines to the heat-consuming apparatus, where it gives up heat. It is then returned directly to the generator or boiler for reheating. Circulation through this system is maintained by a special pump.

High-temperature water of 300° to 400° F. used as a heat carrier permits the installation of considerably smaller pipes as compared to those used for steam. A cubic foot of water contains many times the number of B.t.u.'s in a cubic foot of steam at the same pressure. Piping installation can be undertaken without regard to pitch. The builder and structural engineer will appreciate being relieved of problems concerning piping arrangement in trusses, where at times fractions of an inch prevent proper pitching of steam and condensate piping. High-temperature fluid piping can also be installed overhead without regard to leveling, or laid in small shallow trenches following the contour of the ground surface. The piping is welded to assure smoothest flow conditions and greatest tightness. Expansion loops and bends replace all expansion joints. No traps, strainers, or similar devices have to be installed and maintained. Shut-off and control valves only are required for controlling the delivery of heat to the consuming equipment. This simplicity is said to effect savings in capital investment.

SMALL HEAT LOSSES. The high-temperature-water system is an entirely closed circuit, as previously

(*Continued on page 214*)

► **Utilization of a high-temperature fluid, circulating in a closed system, as a heat carrier from boiler to process machine to replace steam is interesting in theory and stimulating to the imagination. Water is used, where corresponding pressures are permissible, up to 400° F. Above this temperature and where low pressures are required, chemicals are employed. Existing boilers and equipment are suitable for conversion. The piping should be changed, in most cases, in order to eliminate unnecessary heat losses and other inconveniences. Existing and new installations each require individual engineering in order to determine exactly what will be the most economical system. The process has seen its greatest development in Europe where fuel has been expensive. The mounting costs of fuel in this country make any savings therein of great importance.**

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Return to SILK Means Knitting Changes

HIGHLIGHTS: *Changing some split dividers to plain improves selvage —New carrier tubes needed if going to coarser yarn—Gage needed to set carriers in relation to sinker head—First stockings knit may be best—Wet knitting can cause trouble with catch-bar motions.*

By K. ALBERT HAHN

A more elastic selvage results from substituting as many plain dividers as possible for split dividers.

IN PROPORTION to the quantities of yarns becoming available, full-fashioned knitting machines are being changed over to the production of more durable hosiery. A frequent change undertaken is the one from rayon to natural silk. To go about this change successfully, it is well to remember a few principles, which will be listed here.

SELVAGE. Knitting natural silk implies the use of the ringless attachment. The use of this attachment does not—under normal conditions—make it difficult to produce a sharp and clear selvage, but the selvage may be too hard and too tight.

In order to attain a more elastic selvage, it is indispensable to remove from the machine as many split dividers as possible and replace them with plain ones. Split dividers should, however, enter into the selvage with the first narrowing of the heel tabs; and they are also necessary for a good appearance of the inner side of the high splice and the inner selvage of the heel tabs.

Changing, for instance, from 75-den. rayon to three-thread natural silk, or from 50-den. rayon to two-thread natural silk is feasible without replacing the carrier tubes. If the change, however, is from 50-den. rayon to three (or more) thread, new carrier tubes are as much a necessity as would be involved in a change from a fine to a coarser natural silk.

In rayon it has often been found possible to change to a heavier material without attending to the carrier tubes, but this is not the case with natural silk.

YARN CARRIERS. In ringless knitting, the importance of the position of the silk carriers in relation to the sinker head is self-evident. It is well to have a gage at hand which will enable the fixer or knitter to check or set carriers independently as to clearance from the sinker head.

With the lowest carrier bent to slide along the sinker head, the following clearances are practicable for many makes of machines of gages ranging from 42 to 51: 38/1000 in. between the second carrier and the sinker head, 70/1000 in. between the third carrier and the sinker head, 102/1000 in. clearance between the next two carriers and the sinker head, 134/1000 in. for all other carriers.

The space allowed each carrier does not cover its thickness; but since all carriers are never together, this is not important. The lower carrier is given more space than the others, as its position in relation to the sinker head prevents it from giving way by binding down.

The division into five "tracks" of the space provided for the carriers will be sufficient for knitting the average stocking and will, at the same time, take up all the space available for the carriers, especially on machines manufactured before ringless knitting became customary.

SIZE OF CONES. It will often happen that the first stockings knitted ringless will be superior in quality to any knitted afterward. The quality will be getting lower constantly, if the sizes of the silk cones are not being watched.

It is logical and natural to begin with cones of nearly the same size; but, after some time, it will need a special effort to preserve the same advantageous condition; that is, to have on each head three cones of the same size (and, of course, the same lot of silk).

PROPORTIONS. Natural-silk stockings with cotton welts have to be knitted in proportions different from rayon stockings with cotton welts. The silk part of the finished product will be somewhat looser than the fabric on the machine, while the cotton part will shrink more in proportion. These facts have to be noted when making the chain and setting the slacker.

One of the major technical difficulties encountered when knitting natural silk on full-fashioned machines is the result of moisture being shed on the bearings of the catch-bar shaft. It is very important to protect the oil holes of these bearings against moisture. Some catch-bar motions, if not properly attended to, do not regain accuracy even months after this shedding of moisture has ceased. To make up for neglect, thin oil, or oil which has been warmed up, may have to be poured into the oil holes.

Tension wires and rings must be kept free of gum in order to enable them to fulfill their purpose of taking up the slack yarn. Gum and residue may settle around the needles right above the needle bar and cause this part of the needle to rust and eventually break during pliering. This substance should be removed, even though its removal may mean taking off the needle plate.

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Small Cores in WARP BEAMS Are Not Unqualified Benefit

HIGHLIGHTS: *Winding of yarn and fabric for maximum yardage has turned mill men toward small barrels—Wide swing in variable speed ratio makes motor and controlling system cost nearly twice as much for small-core winding—A 6-in. diameter increase in core can mean only 1-in. gain in outside diameter with same yardage.*

By R. J. DEMARTINI,

Textile Application Engineer, General Electric Co., Schenectady, N. Y.

KEEN COMPETITION in all branches of the textile industry is spurring the quest for improved techniques, more efficient methods, and more capable tools. Recent developments in machinery, and in electric equipment particularly, offer new media for solving old processing problems. Progressive mill men are taking advantage of these, and are making good use of the opportunity at the same time to review all factors, major and minor, affecting quality, volume, and costs.

An example of a process which has attracted increasing attention of late is that of winding yarn and fabric. One phase of that problem, however, has not been generally accorded the careful thought it merits. As a consequence, decisions are made unwisely to purchase beams and cores (barrels) of minimum possible diameter. In the belief that maximum efficiency and a minimum number of doffs are obtainable through selection of the smallest practical winding core, some mill men (1) impose a handicap on their quality-control departments, (2) make mandatory the purchase of expensive electric drives, and (3) because of the necessity for adding dancer-rolls, increase the probability of costly shutdowns due to mechanical failure.

BEAM CAPACITIES. Actually, in a vast majority of cases, there is little or nothing to be gained and much is sacrificed in the adoption of small-core diameters.

First, consider the relative volumes of material which may be wound by variation of the empty and full core diameter limits. Take the case of a mill which has standardized on 4-in. cores for winding cloth to a full-diameter of 40 in. (1-to-10 ratio). Assume that the fabric is relatively light in weight, with a thickness of 0.020 in. Then, inserting these values in the following simple formula, we may determine how much fabric may be wound:

$$L = \frac{0.0218}{T} \times (D_2^2 - D_1^2)$$

Where L = Total length of fabric wound (yards)
T = Fabric thickness (inches)
D_1 = Core diameter empty (inches)
D_2 = Diameter full (inches)

The calculation reveals that 1,727 yards may be wound on this hypothetical core.

Now suppose that the 4 in. were increased to 10 in. How much increase in full-roll diameter would be required to permit winding the same yards? Upon applying the new value in the above relation, it is found that the full-roll dimension will be 41 in.

Thus, though 6 in. is added to the empty-beam diameter, a negligible increase of only 1 in. occurs in the filled dimension. For all practical purposes, therefore, there is no gain in operating efficiency to be had from using the smaller center.

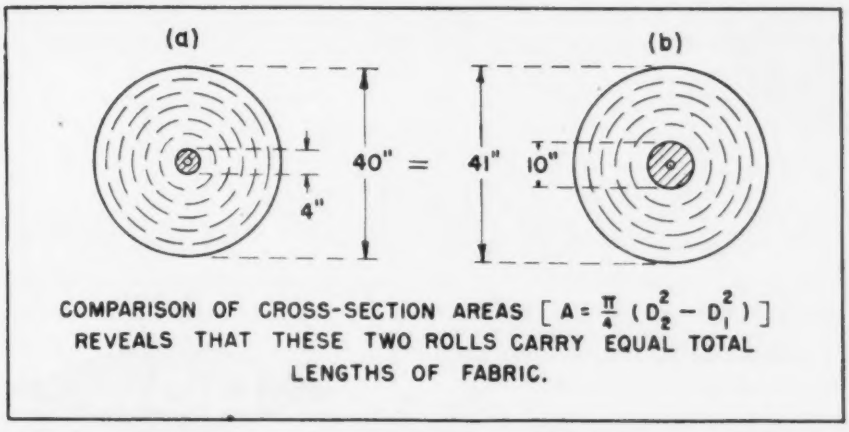
DRIVE COSTS COMPARED. Consider the nature of the electric drives needed to satisfy the requirements of the two cases cited here. Assume that a winder is to be purchased for the delivery end of a d.c. adjustable-voltage, multi-motor finishing range (or a slasher, in the case of yarn). Assume that the maximum linear speed is 100 yd. per min., and that tension must be maintained accurately at 100 lb. throughout the doff; also, that the winder must be of the center-wind type to eliminate the possibility of surface damage.

With these operating specifications, the drive must be capable of producing 1 hp. over the winding cycle, whatever the beam-diameter limits.

In the case where the diameter range is 10 to 41 in. (1-to-4.1 ratio) an excellent solution involves the application of a current-regulator type of winder drive. In such a drive the control operates to maintain the armature current constant throughout the doff by automatically and continuously strengthening field voltage (and current) as the beam diameter (and torque requirement) increases. The central element of the control system may be an electronic panel or a rotating regulator of the amplidyne type.

A conventional one-horsepower adjustable-speed d.c. motor will be applied. Since the winder motor relieves other motors in the range of some of their load, the armature of that motor may be supplied from the d.c. adjust-

(Continued on page 184)



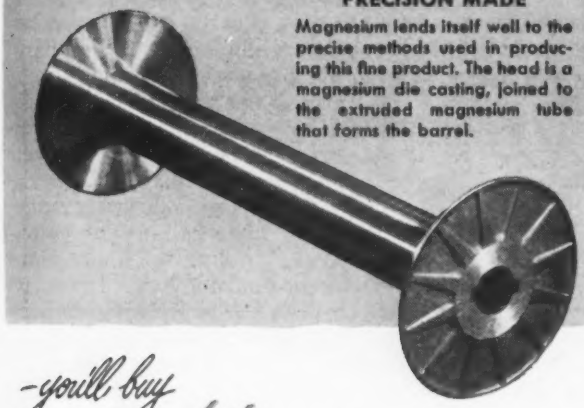
COMPARISON OF CROSS-SECTION AREAS $\left[A = \frac{\pi}{4} (D_2^2 - D_1^2) \right]$ REVEALS THAT THESE TWO ROLLS CARRY EQUAL TOTAL LENGTHS OF FABRIC.

The above rolls (one with narrow core, other with 6 in. thicker core) contain same yardage with gain of only 1 in. in over-all diameter.

They profit 4 ways with magnesium warp beams

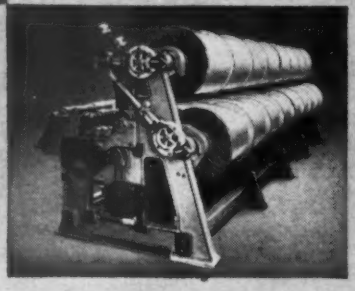
- EASIER HANDLING
- MORE ECONOMICAL SHIPPING
- SPEEDIER WARPING
- SMOOTHER KNITTING

PROGRESSIVE mill operators are cutting costs—improving quality, too—with these better warp beams . . . made of *magnesium metal!* This unique material gives them lightness, strength, rigidity, balance, and dimensional accuracy. Textile machine manufacturers are using strong, lightweight magnesium for more and more parts to cut inertia and improve machine operation.



PRECISION MADE

Magnesium lends itself well to the precise methods used in producing this fine product. The head is a magnesium die casting, joined to the extruded magnesium tube that forms the barrel.



FOR PRECISION WORK

Added smoothness is achieved in tricot knitting machines through the use of magnesium warp beams. Despite high humidity and varying operating conditions, magnesium beams retain their surface and dimensional stability.

—you'll buy Magnesium Lightness *too!*

DOWMETAL

DOW

AS AMERICA'S pioneer magnesium producer, Dow supplies machine manufacturers in many fields with magnesium. Dow's continuous research and development program plays a vital part in the growing application of magnesium to textile equipment.

MAGNESIUM DIVISION • THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

Dow Chemical of Canada, Limited, Toronto, Ontario

TEXTILE RESEARCH
Shows Rapid Growth

HIGHLIGHTS: *More effort on rayon alone than on all natural fibers combined—Other synthetics producers use many workers developing acrylonitrile (Fiber A)*, nylon, Vinyon, Fiberglas, Aralac, vinylidene (Saran, Velon) fibers—Research activity doubled since 1940—Estimate $16,000,000 spent in 1946—New York leads in number of laboratories—Six-fold increase, since 1940, in research in textile chemicals.*

NUMBER OF TEXTILE RESEARCH LABORATORIES BY STATES

By JOSEPH V. SHERMAN

NUMBER OF COMPANIES engaged in textile research increased 58% between 1940 and 1946, and the number of research workers showed a rise of more than 100%. The gains made by the textile industry were better than those of American industry as a whole, which, during the same period, had increases of 8% in the number of companies and 90% in the number of workers engaged in research. The data are based on the last two surveys, those of 1940 and 1946, made by the National Research Council.

The number of companies with research laboratories devoted in whole or in part to work in textiles and related subjects was 258 in 1946, or 10.6% of the 2,443 companies in the United States having research laboratories. In 1940, it was 163, or 7.2% of the 2,264 total for all industry.

In computing the number of textile research workers, it was necessary to eliminate those companies devoting only a minor portion of their total work to textiles. Research staffs were included only for those companies in which textiles constituted the principal, or an important, objective of research. The data, while not exact, are on a comparable basis and serve to show the trend.

EXPENDITURES DOUBLE. Textile research workers in 1946 totaled 3,175, of which 1,280 were chemists, engineers, and others having professional training. These figures compare with 1,575 textile research workers in 1940, of whom 806 were professionally trained. On the basis of an estimated expenditure of $5,000 per worker, the

(*Continued on page 204*)

Number of Companies Engaged in Textile Research

Subject Specified	1946	1940
Textiles	141	110
Fibers	58	6
Rayon	30	24
Cotton and Cotton Products	27	13
Wool and Woolen Materials	22	14
Silk	4	9
Nylon	3	2
Flax	3	1
Textile Chemicals	36	6
Textile Coatings and Finishes	33	7
Yarn	20	6
Felts	12	9
Thread	5	2
Textile Machinery	9	1
Total (excluding duplicates)	258	163

SOURCE: *"Industrial Research Laboratories of the United States," Bulletin of the National Research Council, Number 113, July 1946; Number 104, December 1940.*

The material in this article is based in part on a book, *The New Fibers*, by Joseph V. Sherman and Signe L. Sherman, published by D. Van Nostrand Co., New York. The book presents a most comprehensive survey of all the new fibers that have been developed during the past ten years, and many which are now under investigation.

Research Personnel Working on Various Fibers (1946)

Fiber	Professional Personnel	Total Personnel
Rayon	538	1280
Fiberglas	118	625
Cotton	226	536
Wool	79	233
Nylon	30	141

SOURCE: *"Industrial Research Laboratories of the United States," Bulletin of the National Research Council, Number 113, July 1946.*

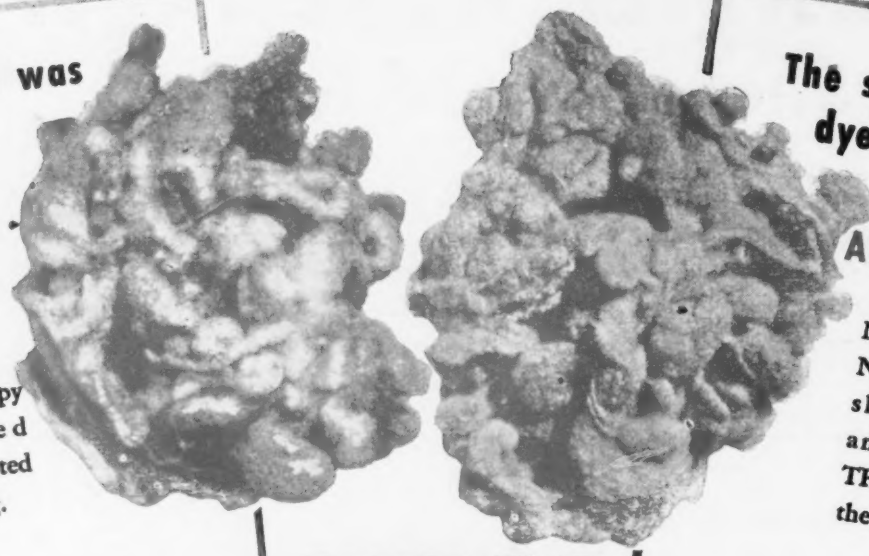
Consumption of Certain Textile Fibers in U. S. in 1945

	Millions of Pounds
Cotton	4,508
Rayon	768
Wool	648
Nylon	24
Casein	9
Vinylidene chloride	1
Vinyl resin	1

TIPPY WOOL ?

This wool was dyed in the ordinary way

It is still tippy—damaged wool prevented even dyeing.



The same wool—dyed with the aid of ANTHOMINE

No tippiness here. Note the uniform shade. A small amount of ANTHOMINE made the difference.

TRY ANTHOMINE !

(PATENT APPLIED FOR)

TO ELIMINATE UNEVEN DYEINGS

. . . QUICKER AND BETTER EXHAUSTION OF THE DYEBATH

. . . A SOFTER, MORE PLEASING "HAND"

. . . SUBSTANTIAL INCREASE IN COLOR YIELD

. . . NO SACRIFICE OF BRIGHTNESS OR FASTNESS

. . . PROCESSING TIME REDUCED

Used in all wool dyeing operations whether on stock, yarn or piece goods, ANTHOMINE, being substantive, increases the affinity of the wool fibres for the dyestuff, resulting in level and solid shades.

Mills throughout the country find ANTHOMINE the solution to tippy wool and uneven dyeings, with extra benefits of increased color yield, better-feeling stock and reduction of processing time.

Write for Technical Service Bulletin No. 203.100.1

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

PENCIL STRIPE in Worsted Requires Clean-Cut Weave

HIGHLIGHTS: *Placing stripe risers against ground sinkers produces cleaner stripe—Stripe yarns can be reeded together or split.*

By R. B. SENDREN

Fig. 1. Clear pencil stripe in this fabric was obtained by having stripe weave break cleanly with ground.

IN LAYING OUT pencil stripes, the designer must be careful to choose weaves that will give the desired effect in the finished cloth; and he must make drafts and reed plan which aid in achieving the desired effect without sacrificing weaving quality. Fig. 1 shows a staple pencil stripe on a piece-dyed ground. The ground weave is a standard, four-harness, right-hand twill, two up and two down. Thus, four ends complete the ground-weave pattern, even though 51 ground ends are required in each repeat of the over-all pattern. Note, too, that the weave repeats on four picks. The stripe is "clean cut"; that is, the two ends of silk which form the stripe are cut off on all sides by placing risers against sinkers. Fig. 2, *A*, shows the complete pattern with the drawing-in draft marked below and the reed plan below the draw. Fig. 2, *B*, shows the chain draft.

To find the number of heddles needed for any harness, multiply the number of patterns in the warp by the number of ends drawn in on that harness in one repeat of the pattern. For example: No. 1 harness is used seven times in the draw; there are 72 patterns in the warp; therefore, $7 \times 72 = 504$, which is the number of heddles required on harness No. 1.

REEDING. Most patterns using a four-harness weave are reeded, basically, four ends per dent. But there are 53 ends in the pencil-stripe pattern shown, which is a figure not evenly divisible by four; therefore the reeding would not be an even four ends per dent. One dent reeded five per dent would permit good reeding, as would three dents reeded three per dent; the illustration shows one dent reeded five per dent. There are several places where the five-end dent could be placed. Some mills favor putting the extra thread in the same dent with the silk. Others favor splitting the silk ends in the reed; i.e., putting one thread in one dent and the other thread in the next dent, with the five-end dent next to one of these. Still others place the five-end dent in the middle of the ground, on the theory that the extra thread has there the best chance to even out with the rest of the warp. The illustration shows the silks split in the reed and the five-end dent placed next to the silk. This will give satisfactory results in both weaving and finishing.

(Continued on page 198)

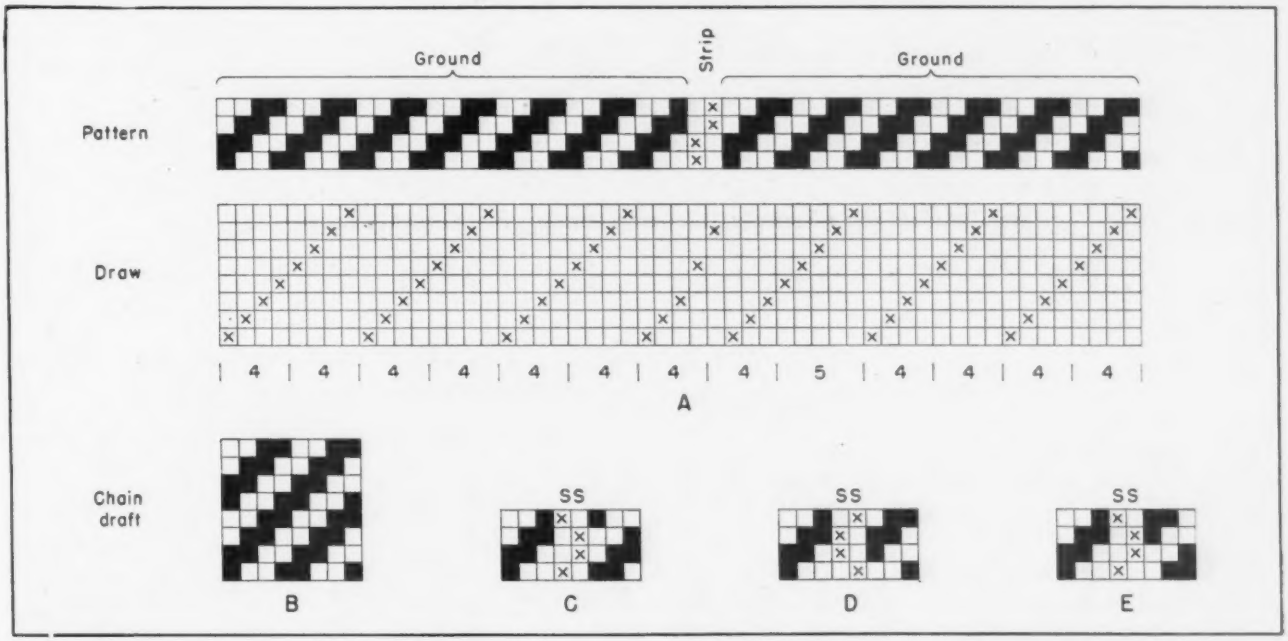


Fig. 2. A. Pattern, drawing-in draft, and reed plan of fabric shown in Fig. 1 illustrates clean-breaking weave and method of reeding extra end in pattern. B. Chain draft is for simple four-harness twill. C, D, and E. Other methods of producing the stripe will weave well but be less clean than method shown in A.

LET RAYCO ENGINEERS TAKE THE PULSE BEAT OF YOUR MILL!

- Does your mill turn out too high a percentage of waste?
- Are your handling costs too high?
- Do your present pre-cleaning methods assure highest quality and efficiency in finished production?
- A waste survey and analysis by Rayco engineers will help you diagnose and prescribe a means of successfully overcoming the ailments listed above.
- Get in touch with us and we will arrange a survey for you without obligation or charge.

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RAYCO

COTTON and Synthetic FIBERS

TEXTILE CHEMISTRY
Advanced by AATCC Jubilee

HIGHLIGHTS: *Damaged tips of wool fibers shown as unpredictable cause of dyeing trouble—New materials can replace starch—Particular dye influences heat adsorption—Mineral content of cotton can affect dyeing—Vat-acid technique is being explored—Problems related to synthetic fibers included in most papers presented at Boston.*

TEXTILE CHEMISTRY was given a further stimulus as a result of the mass of technical information presented at the Silver Jubilee convention of the American Association of Textile Chemists & Colorists in Boston last month.

Outstanding interest was in textile chemistry as related to synthetic fibers, which was treated in eight of the 13 technical papers presented. Chemistry applied to cotton was featured in six papers and to wool in five.

A study of tippy dyeing of wool won first prize as the best technical paper of the seven presented by the AATCC sections.

TIPPY DYEING. Tippy dyeing of wool occurs in several forms, the New York Section reported in its prize-winning intersectional contest paper. The first and most serious forms are in those dyeings in which the tips of the fibers are heavily dyed while the body sections remain undyed or are only lightly dyed. A second variation can occur when two or more contrasting colors are used to produce a shade, resulting in pronounced variations in hue and color value between the tips and body portions. A third but less troublesome effect is caused by the tips remaining undyed or lightly dyed, while the body portions are heavily dyed. Some of these extreme contrasts are reduced when the stock is carded and combed, but these operations cannot entirely eliminate these defects and therefore skittery, frosty, or heathery effects are obtained.

It is well known to every wool dyer that Amido Naphthol Red 6B (C.I. No. 57) and Wool Green S (C.I. No. 737) are perfectly level dyeing types, and it is also known that Fast Red A (C.I. No. 176) and Alizarine Sky Blue B (C.I. No. 1088) do not dye so level as the first two products. However, on tippy wool the latter two produce uniform dyeings, while the level-dyeing types dye very tippy. Therefore, a dyestuff which is known to be level dyeing is not necessarily suitable for tippy wool. This is emphasized to show that the dyer, unfortunately, cannot apply his knowledge of the level-dyeing properties of dyes to their working properties on tippy wool.

More than 650 individual acid and chrome dyes were tested and rated for their dyeing properties on tippy wool and mohair. These tests involved over 4,000 dyeings. The resulting ratings were tabulated. Use of this comprehensive table now makes it possible to obtain improved results by proper selection from a range of dyes rated for their tendency toward tippiness. This information should be of great value to the woolen industry. It should also prove of particular value in the case of shades requiring a combination of dyes, as a proper selection will make it possible to avoid the production of pronounced hue differences between body and tips.

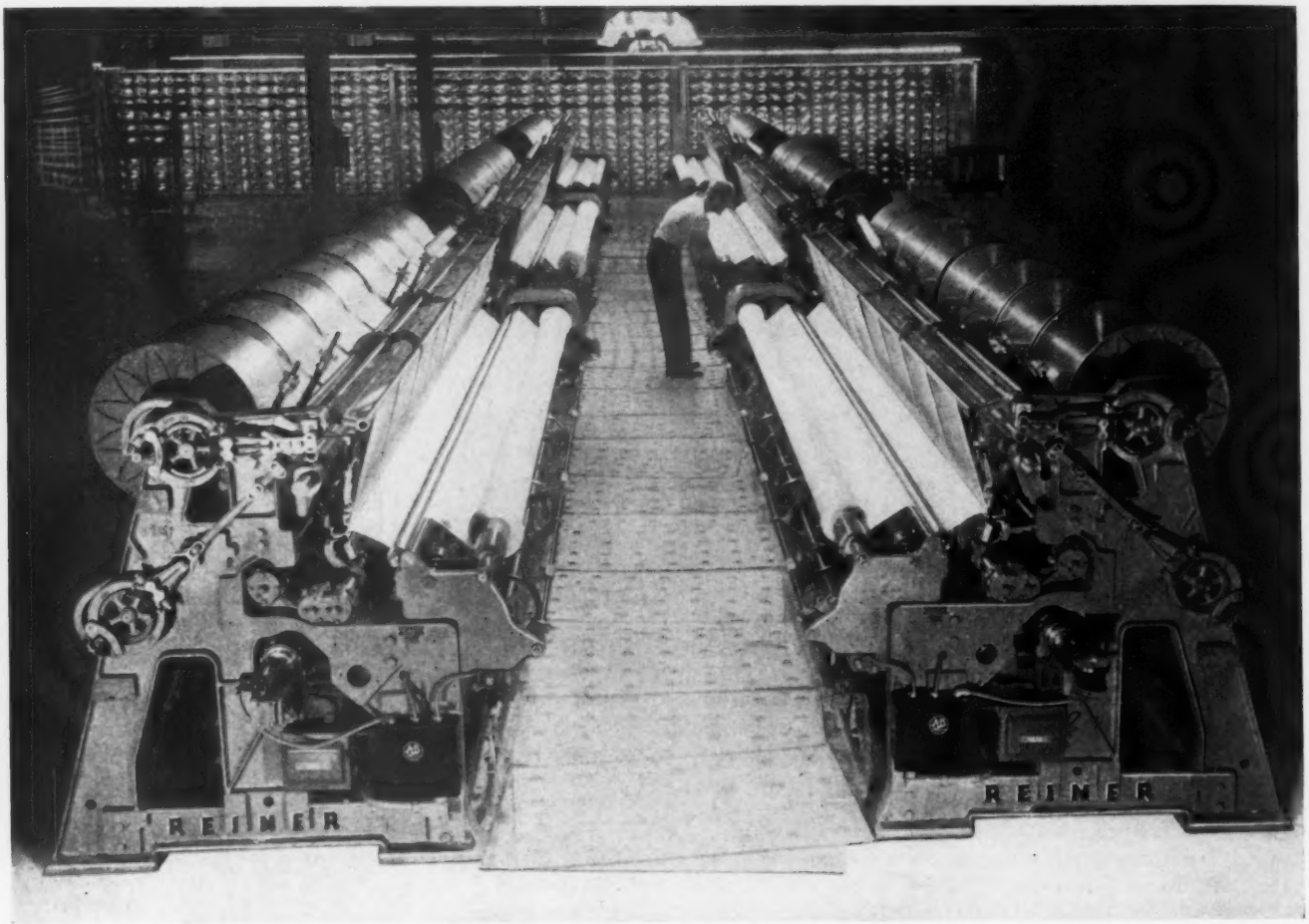
The tests indicated that variations in relative tippiness obtained with certain dyes, particularly chrome colors, occur frequently according to the procedure used. In certain cases, therefore, improvements in tippy dyeing can be obtained by variations in dyeing techniques. Generally speaking, it was found that dyes applied by the top-chrome procedure produced better results than when dyed metachrome. While procedure changes may be of considerable help in some instances, they do not lead to a general solution of the problem.

THE OLNEY PORTRAIT

This portrait of Louis A. Olney, founder of the AATCC, was presented to Lowell Textile Institute by a group of alumni during the Boston meeting.

The scientific fact that the sunlight damage of the wool epidermis is accompanied by a break of the sulphur linkage was confirmed, and further

Tomorrow's Lively Fabrics are made on Today's Faster Reiner Machines!



Installation of Reiner High speed Tricot Machine (RT-1) and Magazine Creel at Ko-Nit Mills, Englewood, N. J.

The New REINER HIGH SPEED TRICOT MACHINE MODEL RT-1 is now in successful operation in leading knitting mills throughout the country

demonstrating its superiority, unexcelled speed, and quality of production.

Speed, economy, safety, and ease of operation have been stressed and welded into a harmonious whole. You may inspect this machine in our showrooms under actual mill conditions, so that you can see, judge, and compare for yourself.

This American-made machine takes 21 inch flange diameter beams also the conventional 13¾ inch flange diameter beams. Knitting width 168 inches or 84 inches—28 gauge (English) or to your specifications. Pattern wheel or chain link drive.

Reiner also offers warping equipment to take up to 24 inch flange diameter beams in all commercial widths. Ask for special folder.

To buy Reiner products means ready access to a fully interrelated line of machinery and their replacement parts —it means advice and services by Reiner experts—in short the fullest backing of an organization that has pioneered in the field of textile machinery since 1903.

ROBERT REINER INC.
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10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505.

tests showed that relinking of the cystine side chains will not prevent tippy dyeing. Therefore, it was necessary to investigate other methods for the prevention of tippy dyeing.

Recently, various dyeing assistants have appeared on the market which were reputed to correct this condition. Of the many materials tested, several showed considerable promise and from these, four were selected for mill tests. These tests showed that in all cases use of the selected agents resulted in nearly perfect coverage.

DYE AND WARMTH. Investigation of the variations in temperature rise as related to the light-absorbing characteristics of the dyestuffs used indicates the importance of the selection of dyestuffs for wearing apparel, tentage, tarpaulins, awnings, and other fabrics for outdoor use, the Philadelphia Section reported in its intersectional contest paper which won second prize.

Measurements made of a wide range of dyestuffs suitable for application to each of these fabrics permitted classification of the dyes into groups exhibiting high, medium, or low reflectance. None of the direct cotton and insoluble azo dyes were found to be low reflecting. However, several vat and sulphur dyes were low in reflectance. Thus, it was evident that fabrics composed of cellulosic fibers; e.g., cotton and rayon, could be dyed with either low or high reflecting dyestuffs. On the other hand, all the dispersed acetate dyes were high reflecting; and, for this reason, no acetate dyeings were included in this study. Of the wool dyes, the chrome blacks and Naphthol Green B were low reflecting. In general, the other azo dyes and the anthraquinone acid dyes were high reflecting. Several dyes of intermediate reflectance are also available.

It has been found that the use of dyestuffs of low versus high reflectance characteristics, particularly in the infrared region, results in substantially different thermal behavior upon exposure either to sunlight or strong artificial illumination. The same cotton fabrics dyed to approximately the same shade when exposed to light will vary several degrees in temperature depending upon the reflectance characteristics of the dyestuffs. This fact may have important practical significance. For example, cotton and rayon clothing can vary several degrees under these conditions, due to the reflectance characteristics of the dyestuffs alone. The same factor can similarly influence the temperatures inside tents, below awnings, and under tarpaulins.

In the field of wool garments, where warmth rather than coolness is usually desired, differences of as much as 5° F. can be expected by the selection of dyestuffs of low versus high reflectance.

STARCH REPLACEMENT. A search for materials to replace scarce starch led to the evaluation of styrene and alkyd resins by the Rhode Island Section in its intersectional contest paper which was awarded third prize.

Since each of these two types of resin compounds has a composition that lends itself to further polymerization, combination with other products, or to cross-linking polymerization, plant trials were run on four combinations, using a linen-type spun rayon and several cotton fabrics. These were: (1) water-soluble styrene resin plus melamine-formaldehyde resin, (2) water-soluble styrene resin plus a quarternary ammonium compound, (3) water-soluble alkyd resin plus melamine-formaldehyde resin, and (4) water-soluble alkyd resin plus a quarternary ammonium compound.

It was found that solutions of styrene resin may be mixed with melamine formaldehyde to produce stable application baths. Finishes developed with such combinations are satisfactory for both cottons and spun rayons In general, good durability to laundering is achieved on both, and shade changes are about the same as with the melamine formaldehyde alone. It is well known that urea-formaldehyde and melamine-formaldehyde resins

(Continued on page 188)

OLNEY MEDALIST

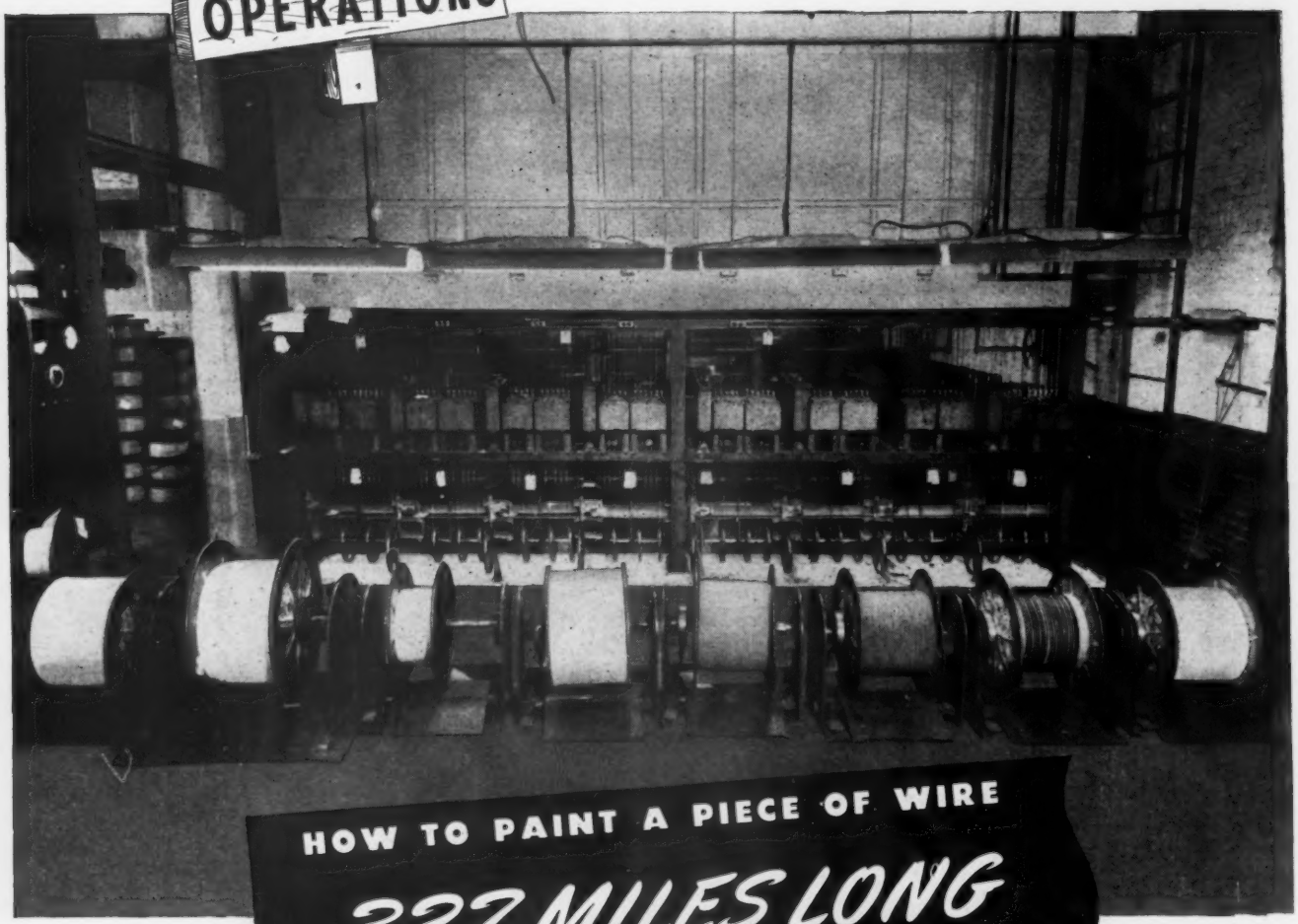
Third recipient of the Olney Medal award for outstanding contributions in textile chemistry is William H. Cady, chief chemist of United States Finishing Co. and a charter member of AATCC.

New National Officers AATCC

Henry F. Hermann, new president of the AATCC and former chairman of the New York Section, is an executive of General Dyestuff Corp. He is the author of several technical papers.

C. Norris Rabold (above) and John N. Dalton, two new vice presidents of the AATCC, are both consulting editors on the staff of TEXTILE WORLD. Mr. Rabold is director of chemical research and development at Union Bleachery, Greenville, S. C.; and Mr. Dalton is chief chemist of Pacific Mills, Worsted Div., and is located in Lawrence, Mass.

Heat at Work...in
CONTINUOUS
OPERATIONS



HOW TO PAINT A PIECE OF WIRE
327 MILES LONG
IN ONE DAY

. . . and paint it not with just one coat, but with 12 consecutive saturating and finishing coats, at the rate of 72,000 feet per hour! A real job for the application of heat in continuous processing operations . . . so the problem was turned over to IOI.

Result: IOI engineers constructed from standard component parts the installation shown above. This specifically designed system delivers 25% more production at 30% less attendant cost, operates over an .010" to .750" diameter range, and produces coated wire that tests higher for luster and concentricity of finish.

This system is typical of IOI's engineering versatility in applying its sound basic principle to the industrial processing of monofilament and web materials . . . *putting heat to work in continuous operations.*

Complete details of IOI installations adaptable to your industry are available in booklet form. Copies will be sent upon request.

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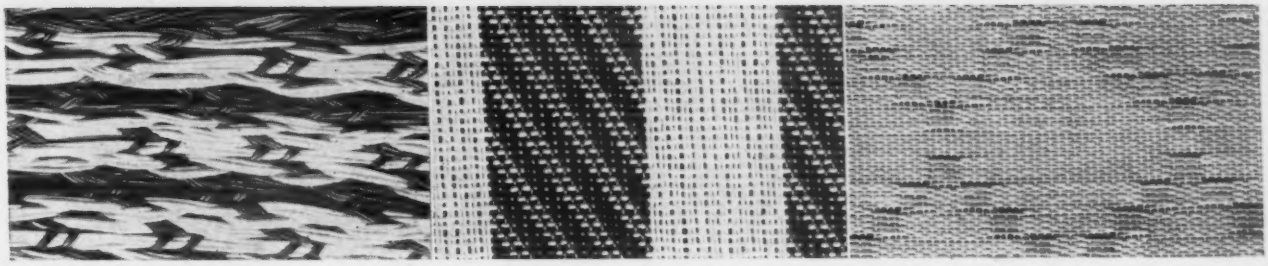


A B C

A. Braided material in five colors makes attracive belt. Coarser-gage yarns are used for effects such as this. B. A broken twill weave with groups of Plexon warp yarns alternating red and white and with white cotton yarn filling produces a decorative upholstery (Count is 32 x 20). C. Dobby effect can be used effectively for drapery (56 x 24).

MONOFILAMENT Techniques May Be Applied to Plexon

HIGHLIGHTS: *Plastic-coated yarns can be handled on conventional machinery—Dyeing and sizing obviously unnecessary—Said to be moisture-proof and color fast.*

WEAVERS OF PLEXON are showing increasing ingenuity in adapting various constructions and color effects to a multitude of end-uses where the characteristics of this plastic-plated yarn are advantageous. Manufacturing techniques are similar to those used in handling monofilaments. Sizing and dyeing are obviously unnecessary.

Plexon may be crocheted or braided into dress accessories such as handbags, belts, and millinery. In interior decoration, woven Plexon serves for upholstery, draperies, and lamp shades. In the form of narrow webbing, it may be used in woven effects for furniture seats and backs. It is said to be impervious to moisture, easy to clean, and have a high degree of color fastness.

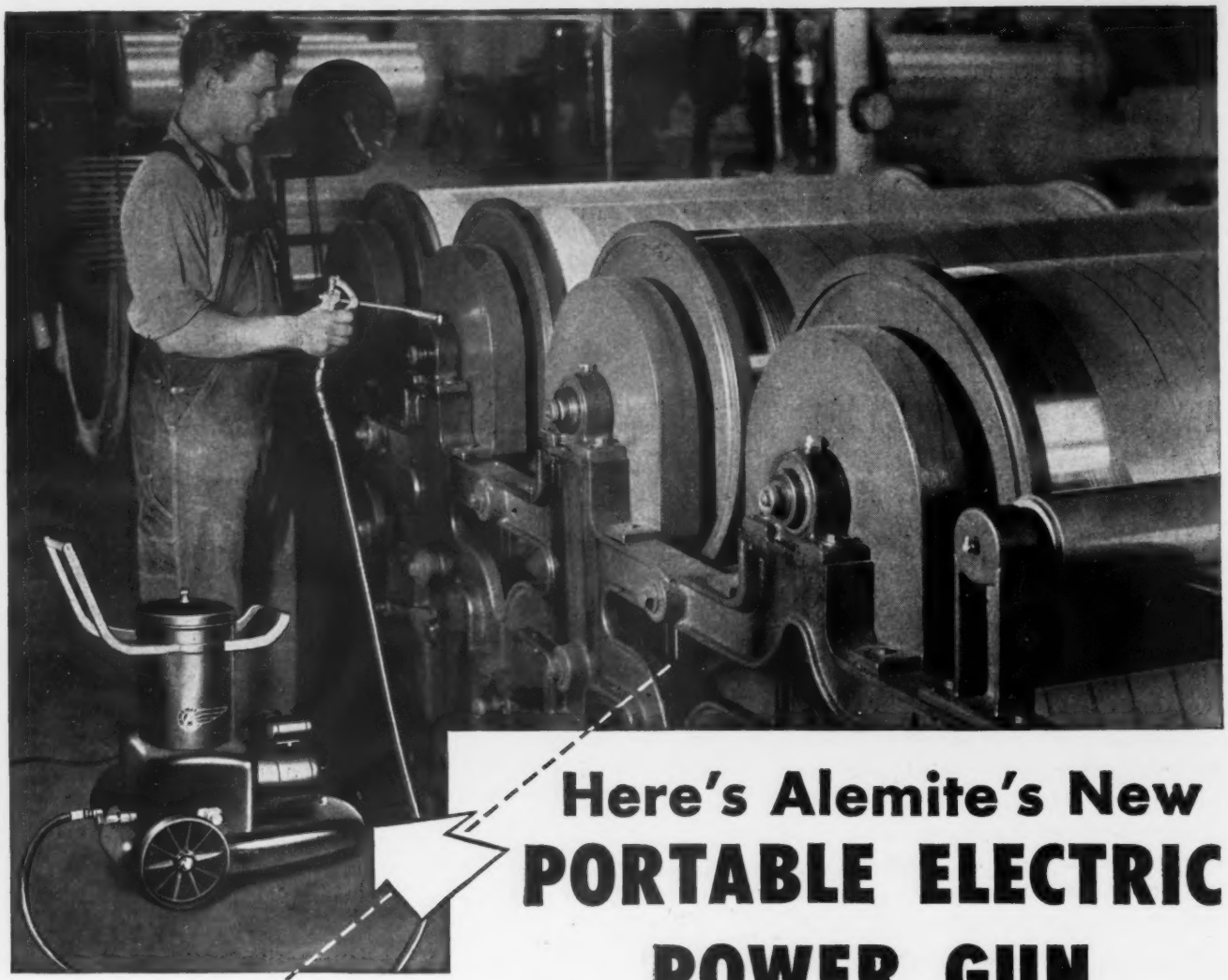
The accompanying fabric samples show the construction of some of the fabrics utilized for the purposes just described, and the photographic views show the materials in use.

Plexon's newest variant is plastic covered wire offered for decorative effects as illustrated. The variety of colors obviously makes possible production of window screening in striped effects to match awnings made of yarn-base Plexon.

Plexon "Pigtail" is a plastic covered wire which provides a combination of properties adaptable to textile fabrication.

This interior uses Plexon fabrics similar to samples shown for furniture covering and draperies.

Crocheted effects in coarser gage yarn make a useful and colorful handbag.



Here's Alemite's New PORTABLE ELECTRIC POWER GUN *In Action!*

Oiler using a MODEL No. 7190 Alemite Electric Power Gun in a large rayon mill in South Carolina. The textile industry, with its many complicated machines finds this new Alemite gun ideal for safe, positive lubrication.

• No plant in any industry is too large or too small to enjoy the benefits of the new Alemite Electric Power Gun No. 7190. It is a typical Alemite development—born of the skill and experience of the leader in high pressure lubrication.

Model No. 7190 is a 25-lb. capacity grease gun with a heavy-duty ⅓ h.p. electric motor. Just plug in and start greasing. It delivers fast, positive high pressure lubrication with all types of lubricants that seek their own level.

Easily rolled anywhere. Big, heavy-duty Bassick wheels make it easy to move about on rough floors. The unit comes equipped with 12-ft. electric cord, high pressure hose, and a control valve with hydraulic coupling. For further details call the Alemite Distributor or write Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

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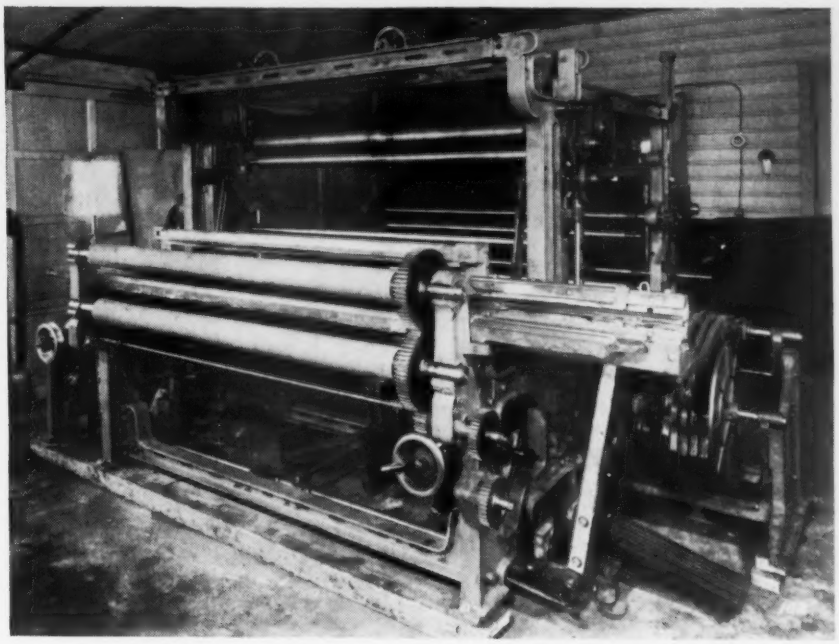
TEXTILE Equipment NEWS

Pile-Fabric Loom Operates at 124 P.p.m.

A heavy, 62-in., double-shed, pile-fabric loom designed to weave either single- or double-pile fabrics has been announced by Aufhauser Brothers Corp., 52 Wall St., New York 5, N. Y. The loom is reported to be of extra-heavy construction for high-speed production. Operating at 114 to 124 p.p.m., the loom can weave patterns requiring up to 14 harnesses, and is adaptable for use with either single- or double-lift jacquard heads. Two ground-warp beams and two pile-warp beams, 28 in. in diameter, can be used simultaneously on the standard model; it is reported that brackets for additional beams can be fitted to the machine.

To eliminate vibration and to insure even cutting of pile, the knife is mounted on wide rails. Height of pile may be 2 in. double or 1 in. single, it is reported.

A positive, compensating warp-let-off motion and a three-roll pile-let-off motion are standard equipment. Automatic warp and filling stop motions are supplied.



Pile-fabric loom can be fitted with jacquard head, dobby head, or cam motion, and is equipped with warp and filling stop motions. (Aufhauser)

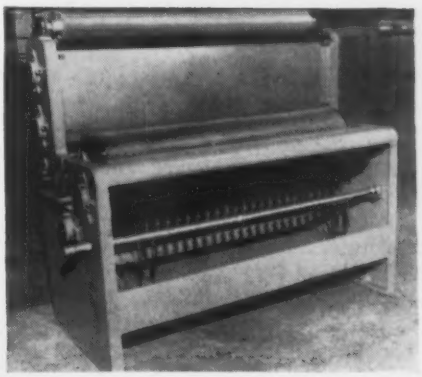


Photo courtesy Air Reduction Sales Co.

All-welded-steel printing-blanket washer reduces weight 45%, uses stainless steel for all parts which contact rubber blanket. Illustration shows washer with front doors removed. (Service Welding)

All-Welded Blanket Washer Uses Stainless-Steel

All-welded printing-blanket washers in which overall weight is reported to have been reduced by 45% have been announced by The Service Welding Co., Ridgefield, N. J. The new design is said to incorporate a more serviceable main blanket roll, more durable shaft-bearing hangers, and extensive use of stainless steel.

The main blanket roll is mounted on a continuous shaft to eliminate truing operations and possibility of misalignment, and it has been fabricated of stainless steel to provide a permanent corrosion-resistant part and to prevent necessity for replating. In addition, stainless steel has been used for the upper front panel, front and back sliding doors, drip trays, and other parts of the machine that come in contact with the rubber blanket.

Bearing housings are made of welded-steel parts and are reported to have longer working life than cast-iron units, though they cost approximately the same. An individual shut-off valve for each water jet has been provided. This is designed to provide flexibility of operation and to permit the operator to shut off those jets not required when printing narrow goods or border patterns. This feature is reported to permit an appreciable saving of water.

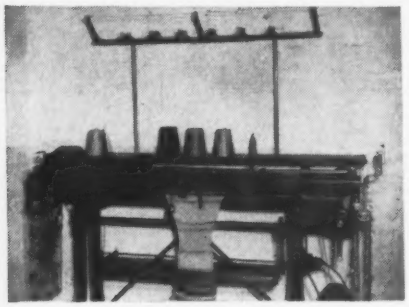
The all-welded-steel construction of the unit is designed to increase machine strength, provide longer operating life, reduce likelihood of breakage, and avoid cumbersome castings. The great reduction in weight is reported to permit greater facility in handling of installations.

Air Reduction Sales Co. techniques and equipment were used in development of the machine.

Outerwear Machine Rights Sought by U. S. Builder

American manufacturing rights to a 40-in. automatic flat-knitting outerwear machine are reputedly being sought by an American machine builder. The basic pre-war German design of the machine has been radically modified by C. Huppert & Co., Melbourne, Vic., Australia, and is said to comprise a type not previously manufactured in the British Empire or in the United States.

Made in gages of 7, 8, 10, and 12,



Automatic flat outerwear machine, a modification of prewar German design and made in gages of 7, 8, 10, and 12, is being built in Australia. American rights are reportedly being negotiated. (Huppert)

the machine operates on long- and short-butt needles; has an automatic racking device; is designed for automatic change from 2x2 or 1x1 rib to body fabric; and embodies automatic control of body length, four feeders with automatic color change, and electric stop motion.

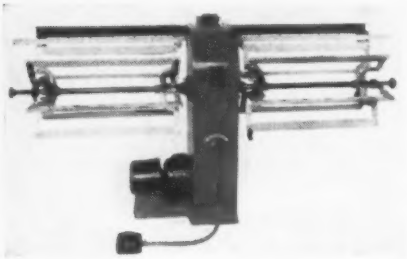
The redesign of this machine is a part of a movement encouraged by the Australian government to reconvert the textile machinery plants of that country to peace-time production and to utilize the expanded plant capacity which resulted from wartime activities in armament lines.

Also under development or in production in Australia are a new knitted binding machine, a new looper, and a circular hosiery machine.

New Skein Reelers Have Variable-Speed Drive

New-model single- and double-end skein reelers have been announced by Fidelity Machine Co., Inc., 3908 Frankford Ave., Philadelphia 24. Adjustable-spoke reels are capable of winding skeins of 36 to 60 in., and free-end spokes are collapsible for easy doffing. The new machines are each equipped with variable-speed drive which is controlled by a dial mounted on the front. Single-end reelers wind six or nine skeins and can be adjusted to any desired speed between 170 and 400 rpm.; double-end machines wind 12 skeins and can be run at speeds from 190 to 380 rpm. on most sizes of skeins and up to 450 rpm. on 44-in. skeins, it is reported.

Other features of the machine are: needle-bearing rollers for traverse bars, pre-set yardage counter, foot-pedal brake release, automatic brake, inclosed drive mechanism, balanced reels.

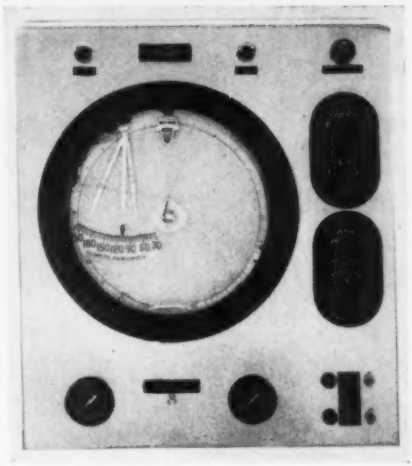


Double-end skein reelers wind 12 skeins of 36 to 60 in. size at speeds of 190 to 450 rpm.; similar model single-end reelers wind six or nine skeins at 170 to 400 rpm. (Fidelity)

Rate of Rise Controlled By Process-Cycle Device

An elapsed-time temperature controller with deferred action and rate-of-rise control has been announced by The Foxboro Co., Foxboro, Mass. The new instrument, called "Cyclelog," is designed to control processes by increasing the temperature at any desired rate from any chosen starting temperature to a predetermined high temperature, to maintain the holding temperature for a period of time as set on the holding-period knob, and to shut down the process at the end of the cycle. It can be set for any rate of rise in temperature from 1° to 8° F. per minute, regardless of water-supply temperature or holding temperature desired, it is reported. No cams need be cut or installed; installation of the device requires only location of measurement bulb, connection to compressed-air supply and pneumatic valve, and connection to 110-v., 60 cycle, a.c. power supply.

When required, the Cyclelog can be equipped with automatic switches to control such intra-process operations as reversal of flow, forward and reverse action of agitators, etc. Four knobs on the front of the case furnish means for setting cycle operations. The device makes a chart record of each cycle.



Cyclelog is designed to control rate of temperature rise and to hold processing temperature for predetermined time. No cams are required. (Foxboro)

Swatch-Filing Cabinet Holds 36-in. Samples

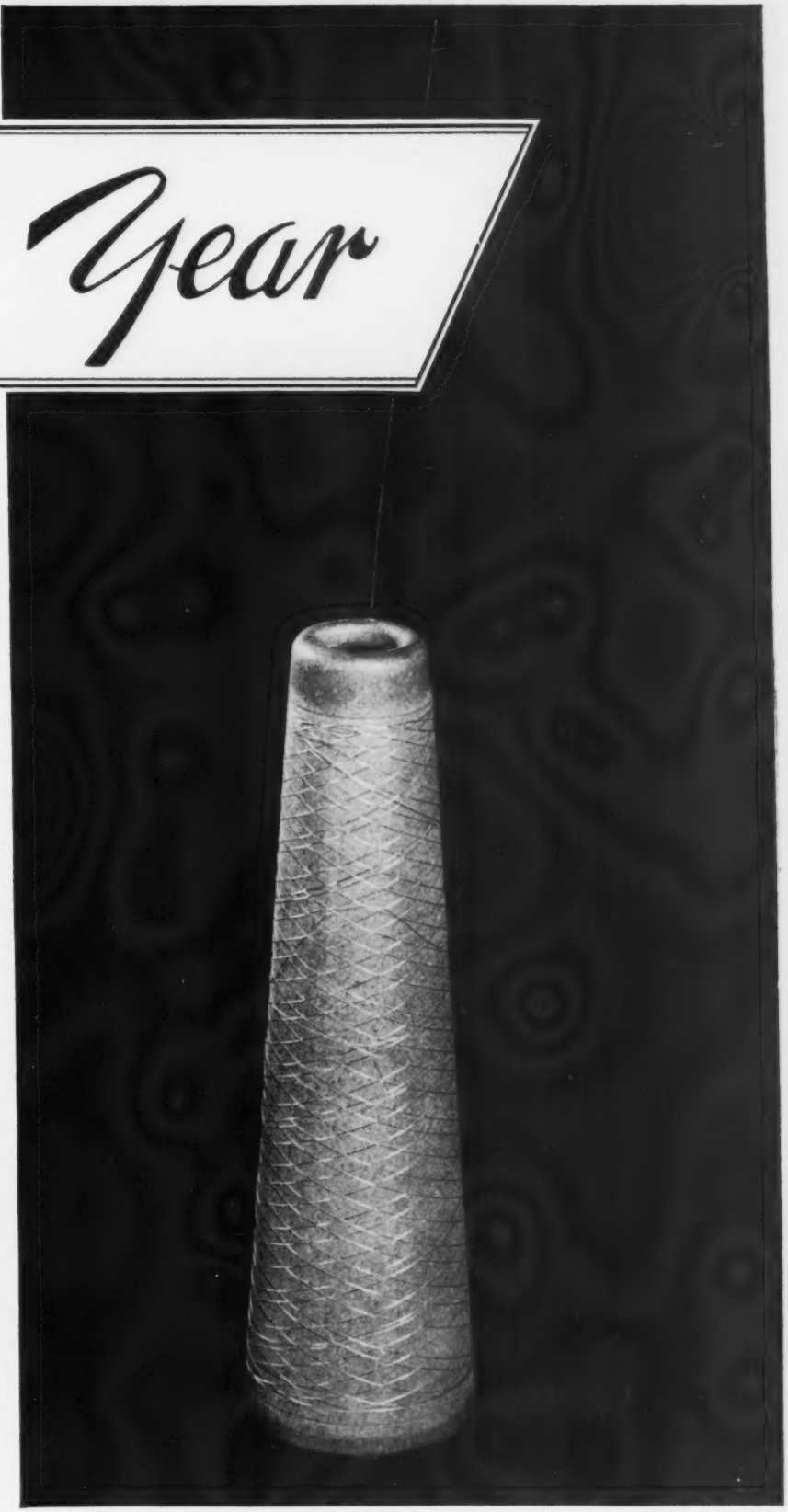
A swatch-filing cabinet, called "Readi-Swatch," and designed to hold over 400 fabric samples of 36-in. length has been announced by Charles J. Lane Co., 46 West Broadway, New York. Swatches are mounted on metal suspension bars and cardboard holders which are said to allow the samples to hang in the drawers without wrinkling. Each cardboard holder is large enough to contain all pertinent information about the sample. The light-proof cabinets are designed to prevent light-fading of samples.

Hydraulic Power Units For Continuous Operation

A line of package-type hydraulic power units has been announced by B. F. Perkins & Son, Inc., Holyoke, Mass. Each unit consists of a high-pressure hydraulic pump, electric drive motor, relief valve, and oil reservoir completely enclosed in an outer housing. All moving parts are isolated to prevent contact with employees' clothing or hands or damage from moving objects.

The upper third of the outer housing is formed by the oil reservoir which has a capacity of 7-½ gal., ex-

48th Year



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DEPENDABLE SOURCE OF SUPPLY

Package-type hydraulic power units are now available in three sizes up to 3 g.p.m. capacity. (Perkins)

clusive of the surge chamber. Drain plugs are furnished for draining and cleaning the surge section and main reservoir when necessary. The lower part of the outer housing is provided with easily removable side plates having four sets of louvres for maximum air circulation and cooling. The entire outer housing is finished in a tough, durable, dark-grey enamel and has no sharp corners or edges.

The base plate is precision drilled to receive the pump-drive motor and pump-mounting bracket and to insure alignment between motor and pump shaft through a flexible-coupling connection.

Motors are standard, 1,800 rpm., open-type, unless otherwise specified.

The unit is now furnished in three types, as follows: 3 g.p.m. at 1,000 lb. per sq. in., with precision-built gear-type pump; 1¼ g.p.m. at 3,000 lb. per sq. in., with constant-displacement, non-directional piston-type pump; ½ g.p.m. at 10,000 lb. per sq. in., with constant-displacement, non-directional piston-type pump. Additional types, in sizes up to 40 g.p.m., are being added.

All units are reported to be suitable for continuous operation at maximum pressures. Intermediate pressures are said to be readily obtainable by a simple adjustment of the spring-loaded, guided-piston-type relief valve.

The power unit has overall dimensions of 31 in. length by 21 in. height, by 16 in. width. Shipping weight is approximately 250 lb.

Small Tricot Machine Makes 21-in. Samples

A number of table-model high-speed tricot-knitting machines designed to be used by textile mills in developing new fabrics and for instruction purposes in mills and textile schools have been produced by Aveco, Inc. The small machine is designed to eliminate the necessity for taking full-size machines out of production in order to make samples of new fabrics and to permit samples to be made with limited quantities of yarn.

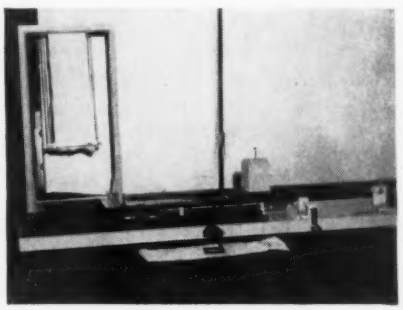
Roll-Surface Temperature Obtained by Thermocouple

A new unit for obtaining accurate roll-surface temperatures, known as Roll Temp, has been announced by Pyrometer Service Co., 230 River Rd., North Arlington, N. J. The instrument is essentially a surface pyrometer with the indicating instrument separated from the thermocouple. The instrument proper is mounted permanently and conveniently on the machine, and the operator need handle only the thermomcouple. This method of handling is designed to permit an operator to make temperature measurements without previous knowledge of instrument care and handling. To operate the device, the thermocouple is pressed lightly against the hot surface; an instant temperature reading is obtained on the instrument dial.

Tester Measures Shift Of Yarns in Fabric

A newly developed fabric-shift tester has been announced by United States Testing Co., Inc., 1415 Park Ave., Hoboken, N. J. The device is composed of a framework, consisting of movable rubber jaws, two sets of rails, and a hand-crank-operated motivating arrangement; a carriage which carries a pair of clamps spaced by parallel rods and adjustable from 6 to 12 in.; a weight which is slotted to fit the divisions in the calibrated scale. An extra clamp arrangement for mounting samples and a mounting scaffold for supporting the carriage while placing samples in the jaws are furnished with the apparatus. A counting glass with 0.05-in. marking is supplied for grading fabrics.

The device is designed for commercial testing of fabrics or for grad-



New fabric-shift tester is designed to be suitable for testing either commercial fabrics or those under Quartermaster Specification PQD-422. (U. S. Testing)

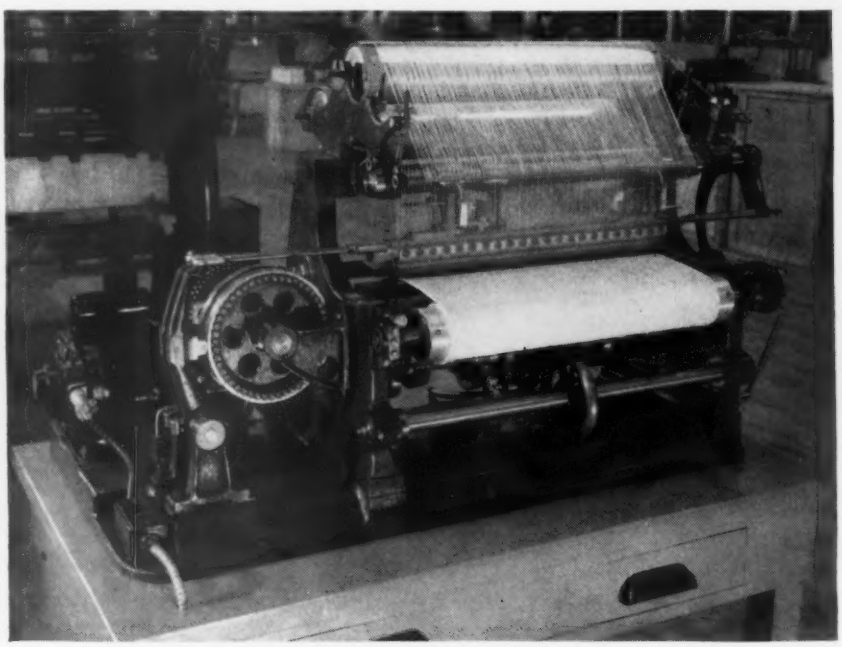


Table-model tricot machine is designed for sample and instructional purposes. (Aveco)

Nalex

FOR WARP SIZING WORSTED YARNS

to accent smoothness

NALEX smooths out worsted weaving inefficiencies: It is a chemically refined warp sizing starch that reduces cooking to 30 minutes; eliminates binders; is non-congealing; and maintains its refinery controlled viscosity without the addition of enzymes or chemicals.

NALEX smooths out worsted finishing: It discourages lump formations; penetrates uniformly; dries faster; adheres all fibers over their major lengths; and forms a strong, continuous film that permits an excellent closed in effect after weaving.

NALEX smooths out worsted styling: It provides the fashion designer with a cloth that has a pleasing appearance and hand; brilliantly retained coloring; and easy-to-wear elasticity.

NALEX is equally suitable for worsted and fine combed cotton yarns. It offers readily proven savings of $500 to $1000 a carload over ordinary warp sizes. Ask for a trial demonstration—NOW!

National also produces: **FIBERTEX** for textile finishing; **AMBERTEX,** a heavy-bodied thickener for white discharge, direct and vat color printing; **FLOTEX,** to replace natural gums for printing; **FLOJEL,** uniform, thin boiling corn starches in all standard fluidities; **HOOSIER** Pearl Cornstarch.

Offices: 270 Madison Avenue, New York 16; Boston, Philadelphia, Atlanta, New Orleans, Indianapolis, Chicago, San Francisco and other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto. In Holland: Nationale Zetmeelindustrie, N. V., Veendam.

Photo courtesy of:
A. D. JUILLIARD & CO., INC.

National
STARCH PRODUCTS

STARCHES — AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY

Aluminum Cloth Rolls Made in Lengths to 120 in.

Aluminum cloth rolls in lengths up to 120 in. and with any size square-journal hole have been announced by Wiltex, Inc., 1340 East 222nd St., Cleveland 17. Made of high-strength, heat-treated aluminum-alloy tubing with cast-aluminum end pieces, the rolls are said to be free from splintering, wear, and distortion; a roughened surface is reported to provide a firm grip on the cloth. A 4½-in. diameter roll 60 in. long weighs 10 lb.

ing fabrics under Quartermaster Specification PQD-422. For general testing, samples should be washed or dry cleaned three times by the approved method for the intended use of the material. For testing under specification PQD-422, the samples should be washed three times, each time for ten minutes in a 0.5% neutral-soap solution at 100° F. For general use, samples should be mounted with the longer direction running across the yarns that have the least resistance to yarn slipping. Specification PQD-422 requires the longer direction in the filling direction.

DYES & CHEMICALS — PRODUCTS & PROCESSES

Synthetic Detergent Available as Concentrate

CLAVODENE; Dexter Chemical Corp., Textile Chemical Div., 819 Edgewater Rd., New York 59.

Clavodene, a synthetic detergent which may be used with rayons, cottons, or wools, has been announced by the Textile Chemical Div. of Dexter Chemical Corp. The new product is available as Clavodene concentrate, which is a 100% liquid synthetic detergent, or as Clavodene "100," which is a solution of the concentrate. These products are high-molecular-weight, amine-condensation compounds and are recommended for use as detergents in neutral, mildly acid, or alkaline solutions. The material may be used for re-wetting, since it retains its wetting power after drying on the goods; and amounts as small as ¼% concentrate on the weight of the goods have been found effective, it is stated.

New Coating Material Forms Tough Film

DOW LATEX 512; The Dow Chemical Co., Midland, Mich.

A new aqueous film-forming material, Dow Latex 512, announced by The Dow Chemical Co. is a combination of styrene and butadiene which, when air dried, is reported to form a rubbery and tough film with excellent pigment-binding properties and a high protective value. The compatability of the material with many aqueous emulsions or dispersions of resins, oils, varnishes, starches, waxes, casein, plasticizers, and water-soluble gums and pigments is reported to be among its important characteristics.

Cellulose Gum Is Finishing Aid

CMC, Hercules Powder Co., Wilmington, Del.

CMC, a new cellulose derivative, has been announced by Hercules Powder Co. This water-soluble cellulose gum is said to possess many properties of water-soluble starches, gelatins, and gums, as well as those qualities found in processed or synthesized hydrophillic colloids.

CMC is the sodium salt of carboxymethylcellulose formed by the reaction of monochloracetatic acid with alkali cellulose and is available in three viscosity types: low—25 to 50 centipoises at 2% concentration; medium—400 to 600 cps. at 2% concentration; and high—approximately 2000 cps. at 1% concentration.

CMC can be made relatively insoluble in water, it is adhesive but not sticky, it is insoluble in organic solvents, and it is said to form tough films. CMC reputedly not only acts as an emulsifying agent in oil-in-water emulsions but also protects the emulsion.

Gum Finish For Cottons and Rayons

DEXENE #115; Dexter Chemical Corp., Textile Chemical Div., 819 Edgewater Rd., New York 59.

Dexene #115, a new product designed to give a firm finish to cottons and rayons, has been announced by Textile Chemical Div. of Dexter Chemical Corp. The new material is a water-soluble gum of reputedly low viscosity and high stability. It is readily soluble in cold water, works well with starches, and may be added to many starch finishes to improve the binding power of the starch, it is stated. Dexene #115 may be mixed with both cationic and anionic materials and is unaffected by mild conditions of acid or alkali; it is also reported to be an efficient aid in the printing of cotton and rayon.

Alert, courageous and devoted, the Belgian Sheep Dog has the inbred instincts of a guardian that makes him the ideal protector. This splendid animal is often used in police work and in an emergency is unhesitatingly the stubborn defender of his master.

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The appraising eye of the expert quickly discovers the features which remove a dog from the anonymity of breed to the distinction of pedigree.

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Kinks AND SHORT-CUTS

★ **SAVINGS BOND PRIZE FOR JANUARY**

(November Contest)

A $25 SAVINGS BOND FOR YOUR IDEA

A $25 Savings Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production, in brief any little device, stunt, kink, or short-cut which you have tried out in your own mill which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operation. Previously published material is not eligible for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at our regular rate for this type of matter with extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

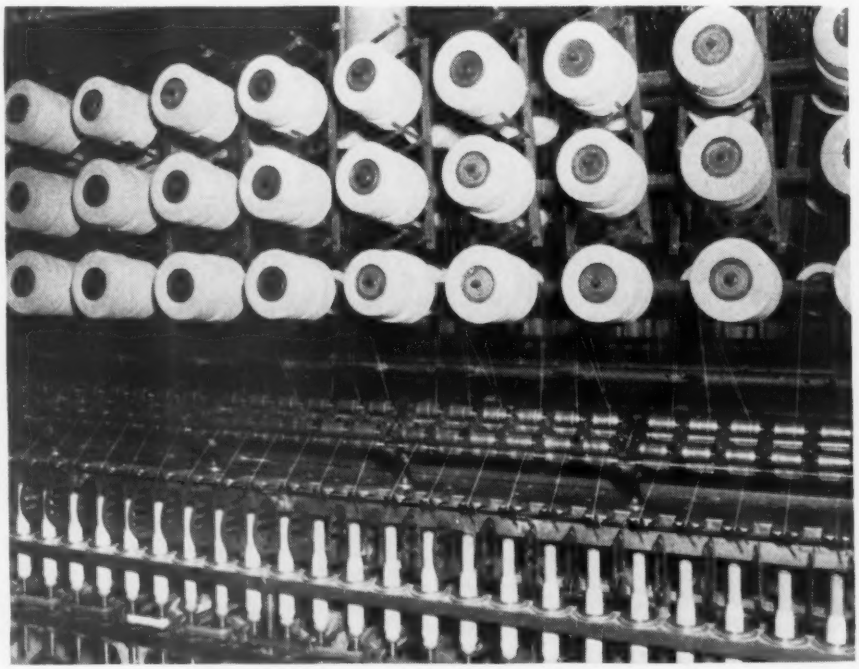
Plied Selvage Yarn Aids Slashing and Weaving

We have realized an increase of 6 to 10% in slasher production by converting a spinning frame to a twister and eliminating the selvage creel racks on our slashers. Reports from the weave room indicate that the weaving qualities of the warps have also improved.

Most of our warps are made of cotton yarn ranging from 20s to 25s with an average of about 3,000 ends per set. For a great number of years, our practice was to mount cheeses of yarn from a Barber-Colman automatic spooler behind the size boxes of our slashers and run the ends from these cheeses in with our warps. With the cheeses mounted on wooden creels at each side of the slashers, this method of forming warp selvages resulted in considerable trouble with broken ends and twisted yarns because of the difference in the type of supply package.

This trouble was eliminated by making two-ply selvage yarn and beaming it along with the regular warp on our Barber-Colman high-speed warper.

To accomplish this job, we made the following changes. On the spinning frame, we removed the creel and built the creel shown in the accompanying photograph for accommodating cheeses of yarn. Two cheeses are mounted on each creel spindle; and as the frame runs, the cheeses themselves turn. Hinged weights, bearing against the cheeses, place a small amount of fric-



By converting this spinning frame to a twister and plying warp-selvage yarn, one mill, slashing 20s to 25s yarns in sets of 3,000 ends, was able to eliminate creeling spooler cheeses at the back of its slashers to form selvages. In addition to increasing slasher production 6 to 10%, the new method of running selvage yarn has also yielded improvements in the weaving qualities of the warps.

DOWN goes down time . . . UP goes profit . . .

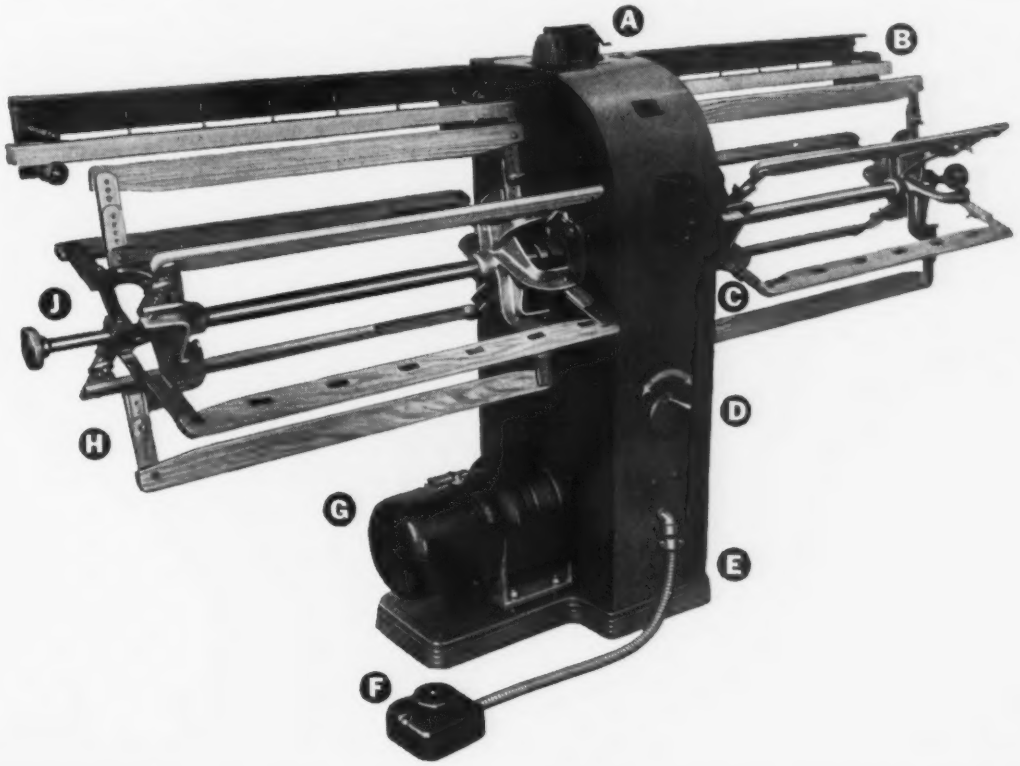
with the NEW FIDELITY SKEIN REELERS

The Fidelity Skein Reeling Machine introduces both a basically new design and a new method of skein reeling. Machines are available either *double end,* as illustrated, with twelve spindles, or *single end* with either six or nine spindles.

One operator can keep a unit of 2, 3, or 4 machines in constant operation doffing and starting new ends on each machine before the next stops. Production is continuous, and workers like the streamlined ease of operation. Greater efficiency with less fatigue.

Foremen are enthusiastic about its quick adaptability to production changes—handling dye lots of any size and variety—rayon—nylon—silk—cotton—worsted yarn.

Our detailed folder includes a long list of users who have already approved these machines. Your copy will be mailed promptly. Just tear off the bottom of this ad, sign and clip it to your company letterhead. No obligation.



A **VEEDER-ROOT COUNTER.** Absolutely safe for operator. Automatically controls the amount of skein reeled—operator pre-sets yardage.

B **TRAVERSE BAR** supported by flanged rollers on needle bearings gives smooth motion that lays even yarn.

C **PUSH BUTTON START AND STOP SWITCH** within easy reach of operator.

D **VARIABLE SPEED CONTROL** quickly changes reel speed by simple turn of dial handle at front of machine. Speed from 190 RPM to 380 RPM. Up to 450 RPM on 44" skeins.

E **ENCLOSED DRIVE.** Keeps machine dust-free — safe for operator. **BASE FIRM AND RIGID. COMPACTLY DESIGNED** to save floor space. 93" wide x 23" deep x 47½" high.

F **CONVENIENT PEDAL BRAKE RELEASE** for hand-turning reel to starting position.

G **AUTOMATIC MOTOR BRAKE** saves valuable time in the doffing cycle—brings reel to a definite quick stop at the exact skein length pre-set on the Veeder-Root Counter (A)

FRACTIONAL HORSEPOWER MOTOR

H **SPOKES ADJUSTABLE** to reel skeins of 36" to 60" in 1" intervals. **BALANCED REELS FREE FROM VIBRATION.**

J **FREE END AND COLLAPSIBLE SPOKES** for quick easy skein doffing.

FIDELITY MACHINE COMPANY, INC.
3910 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

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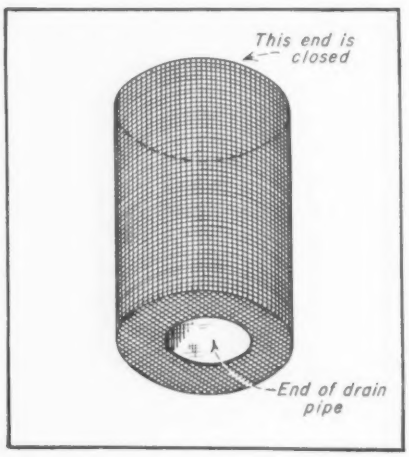
(Please Print)

tion tension on the cheeses to make them turn at a uniform rate of speed. The top rolls and the middle steel roll of the spinning frame were removed; and smooth steel rolls, similar to twister top rolls, were made to replace the front and back spinning top rolls. By inserting S twist in the Z twist single yarn, the converted frame became, for practical purposes, a twister.

A certain number of spindles on the automatic spooler were assigned to this two-ply yarn. On the high-speed warper, the only change that was necessary was to make provisions for applying more tension to the plied yarn than was applied to the single yarn. Our warp selvages require from 24 to 48 ends of the plied yarn, and extra tension was added by mounting two "drag" rods near the warper comb. These rods, made of ½-in. steel, are about 4 in. long and are fixed, in relation to each other, about 2 in. apart. The end of the bracket to which they are fastened is adjustable clockwise and counter-clockwise on the arm that holds the bracket to the warper, so that the two rods can apply drag tension to the yarn through any angle from 0° to 360°.

On the slasher, the beam containing the selvage yarn is placed nearest the size boxes, and a tension rod was installed above and slightly forward of the front warp beam. From the tension rod, the yarn goes through splitting eyes in a flat steel bar. Another bar with splitting eyes is installed on either side of the slasher at points above and slightly forward of the tension bar at the front of the slasher. In threading up the slasher, the selvage yarn is run from the front warp beam, over the tension rod, through the bar of splitting eyes, and under the squeeze roll of the front size box, bypassing the back size box. At the front of the slasher, the selvage yarn is again split away from the sheet of warp yarn and passed through splitting eyes and to the comb. *(K-598) E. G. Hubbard, Jr., Columbus, Ga.*

Drain-Pipe Guard Catches Loose Yarn



When yarn is being tinted, the drain pipe of the tinting drum often becomes clogged with fugitive yarn. The use of a guard similar to the one shown here will eliminate this trouble.

The guard is made in cylindrical form from a piece of fine-mesh wire, such as ordinary screen wire. The top of the cylinder should be closed and the bottom open. When the tinting bath runs through the drain pipe, it will first pass through the guard, and any loose lint or yarn that may be present will be caught by the wire. (K-593)

Use Rod and Screw To Center Stock in Lathe

In order to center work accurately in preparation for radial drilling on a lathe or drill press, we use the method illustrated in this sketch. A 6-in. length of ½-in. drill rod, **a**, is carefully centered at each end so that the ends of the rod can be placed on the lathe centers, or with one end in a draw-in collet or true-running chuck, and the other end placed on the tailstock center. The rod may be used in a similar manner on a drill press.

To hold the work in the work-holding plate *b* we make screw **c** from the same size rod from which **a** is made and fasten *b* to the cross-slide of the lathe. With the rod in the position shown at the left, above the screw, the cross-slide is carefully adjusted until a try-square, placed as shown in the sketch, will touch the side of rod **a** and the head of screw **c**; and the cross-slide is locked in that position.

The work may now be placed and rotated to bring the desired hole opposite the headstock center. On the lathe, we shim the work with metal plates and paper to obtain the desired height. *(K-597) Walter A. Simond, Franklin, N. H.*

Conversion Method Aids Plant and Laboratory

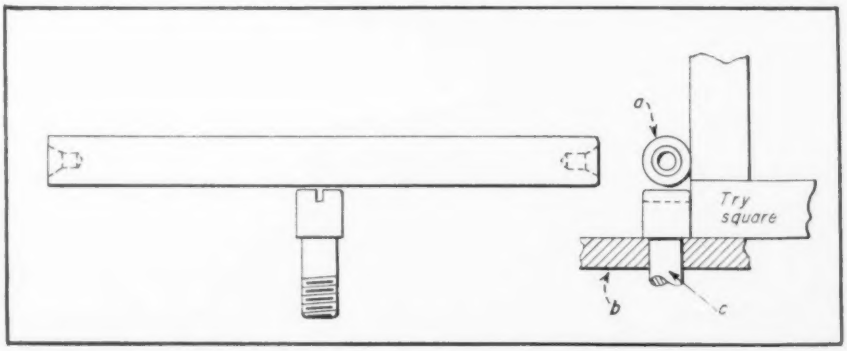
In every finishing plant maintaining a laboratory, the chemists in the laboratory make many conversions from plant formulas into small-scale laboratory duplicates. They are called upon also to furnish the results of their work in terms the plant can use without laborious calculations.

The plant departments generally measure in terms of ounces, pounds, and gallons; whereas, the chemist almost invariably uses, for his small mixes, the metric system. Thus, he weighs and measures in grams and milliliters.

The problem of conversion from the large-volume plant mixes to the small ones used in the laboratory, and vice versa, can be quite tedious unless some short-cuts are devised. Many chemists go to lengthy, as well as error-breeding, calculations in making their conversions.

Suppose a plant finishing formula were made up as follows: 15 lb. starch, 25 lb. dextrine, 7½ lb. resin, 2 gal. finishing oil, ¾ gal. penetrant, 3 oz. tint to 100 gal. water.

The common approach consists in trying to convert these figures into grams and milliliters by multiplying the pounds and gallons by their metric equivalents. The chemist knows, of course, that 1 lb. = 453.6 gm.; 1 gal.



With the rod in a position indicated as a above screw c, which is in a fixed position relative to the cross-slide of the lathe, a try-square can be used to determine the proper location for locating the cross-slide in preparation for radial drilling.

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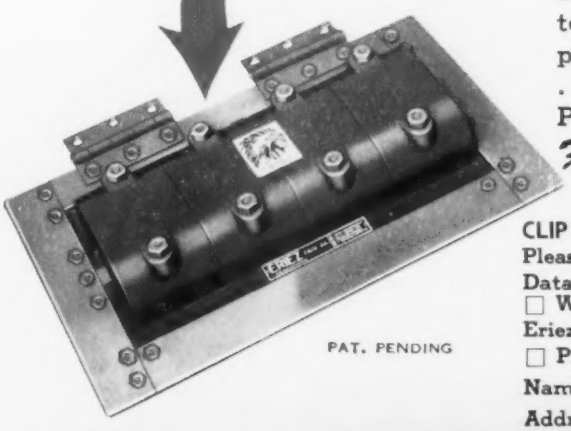

PAT. PENDING

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KINKS & SHORT-CUTS

(Continued from page 154)

= 3785.4 ml.; and 1 oz. = 28.35 gm. Therefore, he begins a series of time-consuming calculations. Each item is multiplied, so that the original and converted formulas are:

Original	Converted
15 lb. starch	6,804.0 gm.
25 lb. dextrine	11,340.0 gm.
7½ lb. resin	3,402.0 gm.
2 gal. oil	7,570.8 ml.
¾ gal. penetrant	2,839.1 ml.
3 oz. tint	85.05 gm.
to 100 gal.	to 378, 540 ml.

The chemist is now forced to reduce his grams and milliliters into workable quantities for the laboratory. He may do this job in one of several ways. First, he may simply move decimal places to the left until he has workable amounts. However, since his laboratory pad box is of a given size and mixes are usually standardized in quantities of 500 ml., 750 ml., 1000 ml. etc., he is apt to try to convert the plant formula to such a standard volume. This second conversion brings about more laborious calculations, with their additional chances of mistakes.

A much easier and simpler way to produce the conversion of the formula mentioned is to make use of the weight-volume relationship as found in the metric system: namely, the fact that a volume unit, as 1.0 ml., equals a weight unit, as 1.0 gm. Converting the original formula into weight units and the weight units into workable weight-volume relationship values, we have:

Original Formula	Conversion to Common Units	Conversion to Metric System
15 lb. starch	15 lb. starch	15.0 gm. starch
25 lb. dextrine	25 lb. dextrine	25.0 gm. dextrine
7½ lb. resin	7½ lb. resin	7.5 gm. resin
2 gal. oil	16 lb. oil	16.0 ml. oil
¾ gal. penetrant	6 lb. penetrant	6.0 ml. penetrant
to 100 gal.	to 833 lb.	to 833 ml.

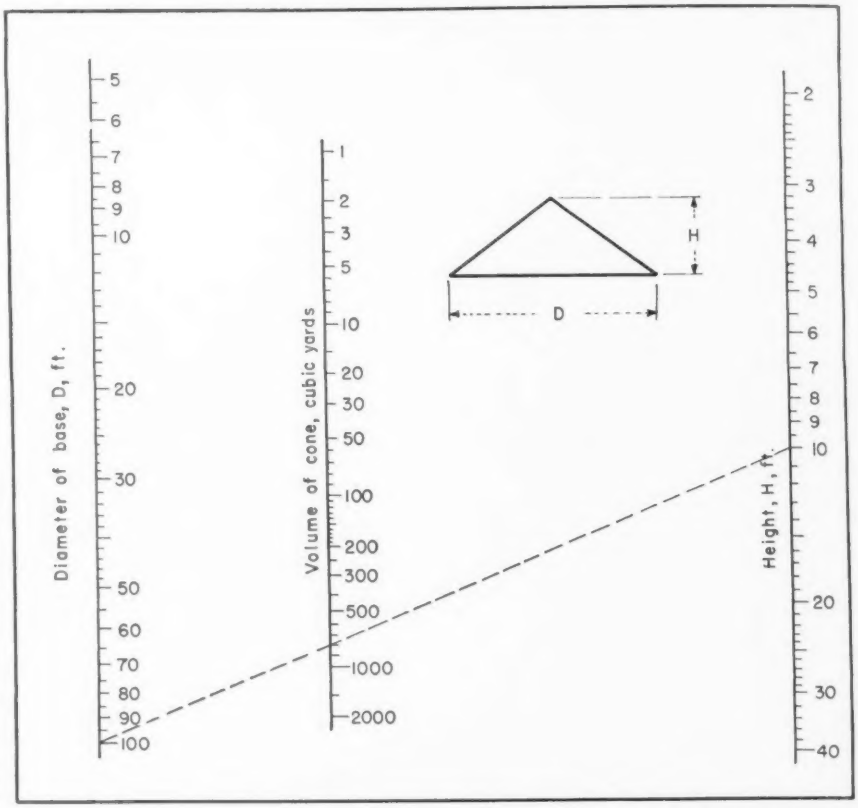
Any multiple or fractional part of this mix can be calculated very easily, and it is not necessary to convert to exact laboratory volumes. For example, if the laboratory pad box held 500 ml., you could make up two-thirds of the mix; if it held 1000 ml., you could make up one and one-third mix.

For exactness, of course, the specific gravity and pound per gallon of each liquid component should be known. These specific gravities need be determined only once. In making up the tables used here, the weight of the liquid materials was taken as 8.0 lb. per gal., which many finishing oils will not miss far.

The reverse of the procedure is obvious. If a direct conversion has been made, the plant formula comes out in pounds and gallons when the liquid weights are divided by the gram weights used. When fractional or multiple parts of the plant formula are made, a simple calculation gets it back to the original.

This method can be used for converting not only finishing formulas but also formulas used in bleaching and dyeing. *(K-603)*

Volume of Cone Estimated With Nomograph

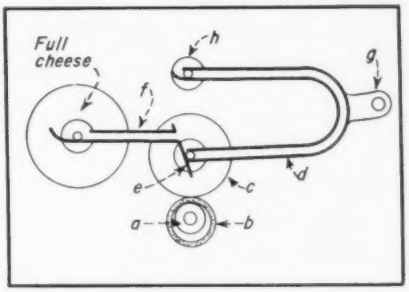


It is sometimes necessary to estimate the amount of material—coal, etc.—in a conical pile. For this a nomograph can be useful. As an illustration of how it works, suppose the base of a pile of material is 100 ft. in diameter and the height is 10 ft. Place a straight edge on 100 in the left-hand column and on 10 in the right-hand column. The point at which the straight edge intersects the middle column indicates the number of cubic yards in the pile, in this instance 800 cu. yd.

Of course, this nomograph will serve only to obtain an estimate. For a correct answer, it would be necessary to have the pile on level ground, in the shape of a perfect cone, and figure the volume by the formula $v = d\,h \div 12$. *(K-596) Paul C. Ziemke, Oak Ridge, Tenn.*

Starter and Full Cheese Transferred Automatically

A device for automatically removing a full cheese and replacing it with a starter was in use on a winder observed in Germany, according to information gathered by a textile team sent to Germany by the United States government. The chief purpose of the device was to permit continuous production of rayon filament yarn, but the team pointed out that it could easily be used also for winding spun yarn from bobbins in a magazine creel.



This device automatically removes a full cheese from winding position and places a starter against the winding drum. When cheese c is full, starter h moves down curved slot d, pushes c into slot f, and takes its place against drum b.

The device, shown in the accompanying sketch, works as follows:

The cheese, when in winding position, is driven from shaft a. Around

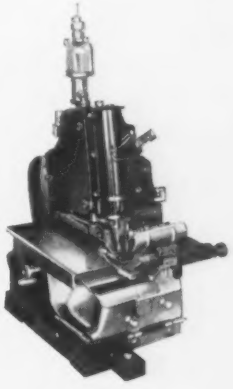
...better seams

a nice combination

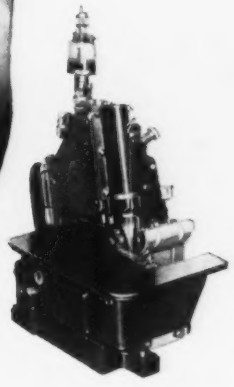
lower production costs

Long the leader in developing high speed, specially designed machines, Union Special also sets the pace with higher and higher standards for precision, improved lubrication, improved thread handling, and lower maintenance costs. When you install latest types of Union Special machines, you get all the advantages of low production costs, plus the added assurance of fine quality work. Don't underestimate the importance of these factors in future competitive market conditions. For information, see your local Union Special representative or write.

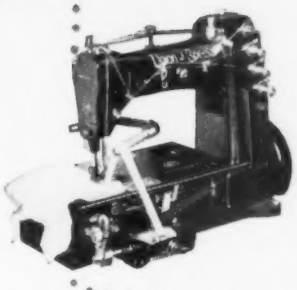
Style 52800 G *for attaching knitted tubing and lace.*



Style 39200 AS *is widely used for blind stitch welting and hemming work.*



Style 39200 AC. *Popular overseamer for the lighter weight materials.*



Three needle 52700 *machine equipped with Union Special Elastic Metering Device with new top feed for top stitching elastic to knitted panties.*

UNION SPECIAL MACHINE COMPANY
403 N. Franklin St., Chicago 10, Ill.

Union Special

Sewing Machines

KINKS & SHORT-CUTS

(Continued from page 156)

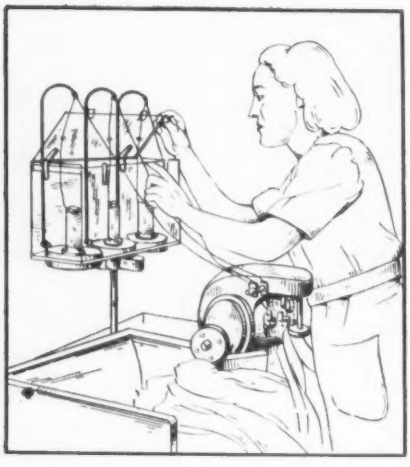
shaft a is placed a loose shell b, intended to minimize yarn breakage. Cheese c, bearing against b, is driven by frictional contact. The cheese is held in place by slot d, in which the axis of the cheese starter rests, and by e, a downward extension of the lower side of slot f.

As cheese c fills, it raises the end of slot d by pivoting d at point g. When the cheese is full, its axis is at the top of e and d is parallel with f. At this point, a new starter h moves by gravity down the upper leg of d, around the curved center section, and down the lower leg. When it comes in contact with full cheese c, it pushes c into slot f and drops down e, pivoting d again, and comes to rest against b.

The operator doffs the full cheese and puts another starter in at point h. (K-599)

Inclosure for Thread Reduces Skipped Stitches

In most full-fashioned hosiery mills where nylon hose are being made, a considerable amount of trouble is experienced at the sewing process because of the tendency of nylon sewing thread to be affected by moisture. At this process, the hose, knitted flat, is closed by making a seam up the back. The sewing machine used for making this seam requires the use of three ends of thread. Usually the spools of thread are mounted on a stand above and behind the machine in a position that facilitates feeding the thread to the machine and permits the operator to observe the thread for serious defects.



Skipped stitches in closing full-fashioned hose can be significantly reduced by inclosing the spools of nylon sewing thread in a rectangular box to prevent its being affected by climatic changes. The box should be made of transparent, shatter-proof, and condensation-proof plastic material.

Close control of tension on the thread is required in order to prevent skipped stitches; and because of the sensitiveness of nylon thread to moisture, necessitating frequent adjustment of thread tension, it is the practice in most mills to reduce the fixer's assignment or to add one or more mechanics to maintain the proper thread tension. Either practice is, of course, expensive; and the production of the machine operators is decreased.

A rectangular box, shown in the accompanying sketch, which incloses the sewing-thread spools, so that they are not subjected to excessive moisture, practically eliminates the problem of skipped stitches.

The box may be mounted on the same stand that now holds the spindles on which the bobbins of sewing thread are placed. The same thread guides may also be used.

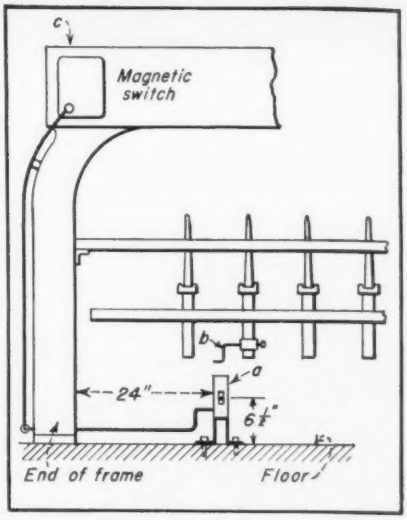
The box should be made of a plastic material that is transparent, will withstand vibration, and will not easily permit condensation of moisture on the inside of the box. The top of the box should be fastened with hinges, so that it may be lifted for removing empty spools and replacing with full spools. Directly above each bobbin spindle there should be a small hole through which the thread can run from the spool to the guide above.

The amount of operator time required for replacing an empty spool when the box is used, in addition to the amount of time required when the box is not used, is almost negligible; and the time and skipped stitches saved will pay for the device in a very short time. (K-600) *The Rohm & Haas Reporter*

Full-Bobbin Knock-Off Used on Wool Spinning

A full-bobbin knock-off, which will stop a wool spinning frame when the desired yardage of yarn has been put on the bobbin, can be made by using a toggle switch in conjunction with the magnetic switch used to start and stop the frame.

Toggle switch a is fastened to the floor with wood screws and located so that knee b, attached to a moving spindle bolster and extending behind the line of bolsters, will contact a when the spindle rail reaches the lower extremity desired for the build of yarn on the bobbin. As shown in the accompanying sketch, the switch is



When toggle switch a is thrown by b, attached to the bolster of a spindle on a wool spinning frame, it actuates magnetic switch c to stop the frame, thus controlling the yardage of yarn placed on the bobbin.

located 24 in. from the inside of the end samson of the frame and 6½ in. above the floor.

When switch a is thrown by b, a actuates magnetic switch c, which stops the frame. Mills warping from spinning bobbins will find such a full-bobbin knock-off especially valuable. (K-529) D. E. Powell, New Bedford, Va.

Swing-Gate Stud Oiled By Pipe Cleaner

A pipe-stem cleaner inserted into the swing-gate oil well of a spinning frame will act as a wick to keep the stud lubricated from top to bottom. Such lubrication will prevent the swing gate from sticking and causing slack twist. The cleaner will also serve to keep dirt and lint out of the oil well.

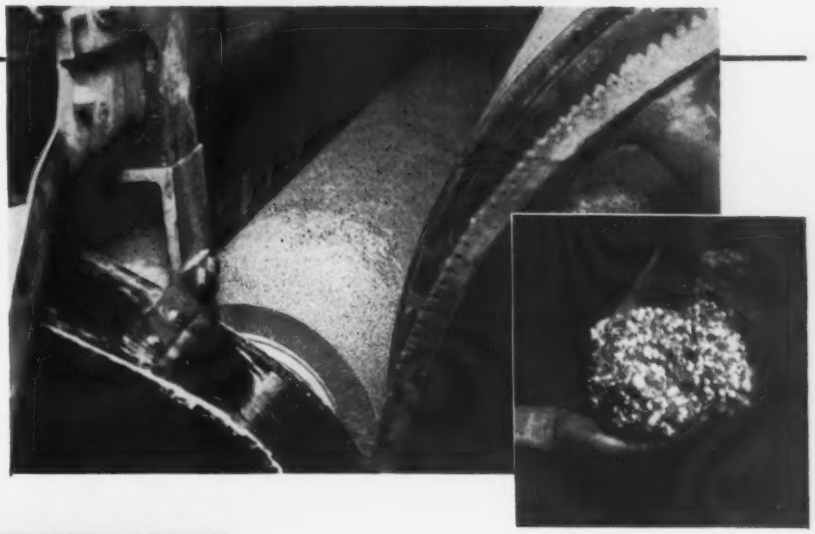
One cleaner will be long enough to make two wicks. (K-480) A. E. Kennedy, Lowell, Mass.

Fur on Thread Guide Removes Kinks From Filling

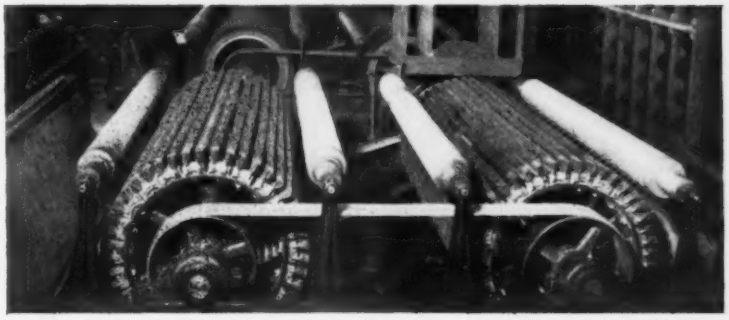
When 200- or 300-den. crepe filling yarn is being quilled, care must be taken to prevent the yarn from kinking on the quills. Some precaution is especially necessary when the yarn is being wound over-end as crepe yarn is often lively.

We have found that gluing a piece of fur all around the outside of the porcelain ring that guides the thread will prevent kinky yarn. (K-594)

FULLERGRIPT BRUSHES AT WORK in the Textile World

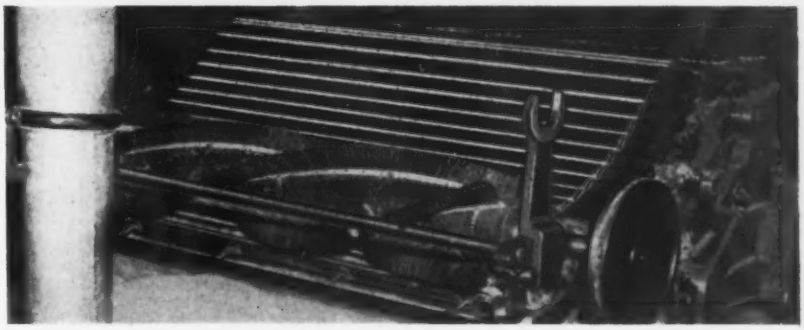


IN WORSTED CARDS the density of Fullergript Brushes makes it possible to push *all* of the wool down into the pins of the Morel clothing leaving the burrs on top free of fiber and ready for easy removal. Fullergript cylindrical brushes act as feed roll brushes, as Morel brushes, and as transfer brushes.



IN THREAD DRESSERS Fullergript Brushes contribute to better ventilation and increased production. There are no gaps or tufts to allow threads to ride on the core and the brushes last longer because of the dense, massed bristle filling.

IN COTTON CARDS the uniformity, lack of shedding and long life of Fullergript Brushes makes them more economical, more efficient, and result in a finished product of higher quality with a minimum af spoilage.



Fullergript Brushes are widely used in the textile industry for carding, thread dressing and many other applications where better brushing action and longer life are desired. These unique brushes are made by gripping a mass of the correct brushing material in a backing of steel. The result is a continuous formation of uniform density that can be used in straight strips or spiraled to fit any process.

Our engineers will be glad to specify the correct application of Fullergript Brushes to your equipment. Write, wire or phone.

THE FULLER BRUSH COMPANY
INDUSTRIAL DIVISION
3594 Fuller Park, Hartford 2, Connecticut

Fullergript

BUILT-TO-ORDER BRUSHES FOR YOUR EQUIPMENT

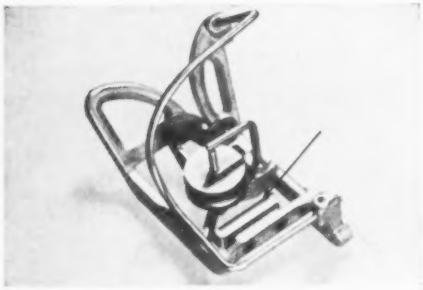
THIS IS NO. 61 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

SLUB CATCHER ANVIL FOR ABRASIVE YARNS (Roto-Coner*)

A new anvil has been designed for the MacColl Slub Catcher which thorough testing has shown will stand up indefinitely with even the most abrasive yarns.



MacColl Slub Catcher Assembly with Slub Catcher itself removed to show "Carboloy" strip in front section of anvil.

A strip of "Carboloy" is inserted in the front section of the anvil where the yarn enters the Slub Catcher Assembly — the portion of the Slub Catcher subjected to the greatest wear. This use of "Carboloy" makes the anvil practically wear-proof.

The new anvil is installed in exactly the same manner as the standard anvil.

SPEED AND POWER REQUIREMENTS OF WINDING MACHINES

In determining the proper limits of operating speed for winding machines, it is necessary to consider a number of factors, including:

1. The economical life period of moving parts.
2. The type of supply.
3. Operative efficiency.
4. Strength and condition of material.
5. Volume of package.

"Precise-Wind" Machines

In all machines of the "precise-wind" type, there is a maximum speed beyond which the parts should not be operated. The cam is usually the critical element; at a maximum speed of about 250 rpm, the cam and the parts that reciprocate with it can be expected to last a long time.

The spindle speed is the speed of the cam multiplied by twice the number of winds (one traversing of the yarn in both directions). With a greater number of winds, the spindle speed can be increased without affecting cam speed.

Drum-Winding Machines

On drum-driven machines having cams, both the type of winding and the cam place limitations upon winding speed, although a somewhat higher cam speed is allowable than on machines of "precise-wind" type.

Machines fitted with the grooved traverse (Roto-Coner*) impose practically no machine limitation on speed, and the winding speed is restricted only by the type of winding and the strength of the yarn.

Yarn Supply

Some forms of yarn supply impose a limit on the speed of the machine because of the difficulty in withdrawing the yarn from the container. When winding from revolving supplies, such as skeins and spools, the yarn speed must be reduced to a speed where the supply will not overrun when an end breaks or where the strain upon starting the spindle is sufficient to cause the end to break.

When winding from a revolving supply to a large-diameter package, it is also necessary to reduce spindle speed if the yarn is of a type not strong enough to withstand tension due to the high yarn takeup speed at the large diameter.

Type of Yarn

When winding more than one end, the maximum yarn speed must be such that a broken end or the inside end from the supply container will not reach the winding package before the spindle stops.

The requirements of the winding package also make a difference. Warping cones and tubes, for example, can be wound at much higher speed than, for example, knitting cones.

Yarn with a minimum of twist or of poor quality may have to be wound at slower speed to prevent an unreasonable amount of breakage. Very large packages must be wound slowly because of their bulk.

SPEED AND POWER REQUIREMENTS

Machine	Supply or Winding Pkg.	Spindles	Speed	Power
6C	Unrolling	1 6	600-900 RPM 600-900 RPM	¼ HP 1 HP
7	Unrolling	1	500 RPM	1 HP
8	Overend	1 6	700-1000 RPM 700-1000 RPM	¼ HP 1 HP
9	Unrolling Spools	1	800 RPM	1 HP
10	Single-end Multiple-end	1 1	1400-1800 RPM 1000 RPM	1/12 HP per sp 1/12 HP per sp
30	Overend	8	up to 1250 RPM	½ HP
42	Overend	42	400 RPM	7½ HP
40 & 44	Dyeing packages Paper cones and tubes Wood cones	100 100 100	325-500 YPM 500 YPM 750 YPM	6 HP 6 HP 6 HP
45	Unrolling — Tight & Loose Pulleys Overend — Clutch Drive	1 5 1 5	275-375 RPM 275-375 RPM 375-600 RPM 375-600 RPM	1 HP 3 HP 1 HP 3 HP
50	Coning Tubing Skein Supply Elastic Yarn Unrolling Supply Multiple-end	6 12 12 12 12 12 12	up to 1250 RPM up to 1250 RPM up to 1250 RPM 300-600 RPM 500 RPM 500 RPM 600 RPM	½ HP ¾ HP ¾ HP ¾ HP ¾ HP ¾ HP ¾-1 HP
60	Coning Paper Tubing Wood Tubing on Spring Holder Wood Tubing on Spindle Swift Supply Runner Supply Slub Trap Attachment Multiple-end	96	Cam Speed up to 280 RPM 500 YPM 500 YPM 500 YPM 350 YPM 200 YPM 150-200 YPM 250 YPM 300 YPM	3 HP
90	Overend Unrolling Skein	20 20 20	5 Wind / 7 Wind / 10 Wind 2000-2300 / 2300-2400 / 2300-2400 RPM 1500-2000 / 1500-2000 / 1500-2000 RPM 1500-2000 / 1500-2000 / 1500-2000 RPM	¾ HP ¾ HP ¾ HP
99	Cones	56	4800 RPM 7 Winds	5 HP
150	Coning Tubing	6 12 12	up to 1250 RPM up to 1250 RPM up to 1250 RPM	½ HP ¾ HP ¾ HP

See our Catalog in TEXTILE WORLD YEARBOOK 23.6.1

*Reg. U.S. Pat. Off.

January 1947

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Pete & Bill

OFFICE HOURS FOR OVERSEERS

Could a department head limit his more general contacts with help and outsiders to specified hours?

WELL, BILL, I'VE MADE A NEW YEAR'S RESOLUTION! I'M GOING TO SYSTEMATIZE MY WORK BETTER; AND AS THE FIRST STEP, I'M GOING TO HAVE OFFICE HOURS!
WHAT DO YOU THINK YOU ARE, PETE--A DENTIST? OFFICE HOURS! THAT'S JUST MORE OF YOUR HOKUM.
1
NO, BILL. IF I CAN CONCENTRATE MOST OF MY GENERAL CONTACTS INTO SAY TWO HOURS EACH MORNING, I'LL BE BETTER ABLE TO SPEND THE REST OF THE TIME ON DIRECT OPERATING PROBLEMS.
YOU OLD FAKER! YOU KNOW WELL ENOUGH THAT YOUR OFFICE HOURS ARE FROM 8 TO 4, RIGHT THROUGH THE SHIFT. WHY KID YOURSELF?
2
YOU DON'T GET IT, BILL. THE OFFICE HOURS WOULD BE FOR INTERVIEWING SALESMEN RECEIVING PERSONAL REQUESTS FROM THE HELP, ETC. THOSE THINGS WOULD BE TABOO AT ALL OTHER TIMES.
YOU MEAN YOU WOULDN'T SPEAK TO THOSE GUYS IF THEY WANDERED IN AT SOME OTHER TIME? COME NOW, PETE, BE PRACTICAL.
3
I'M TRYING TO BE PRACTICAL BY SEPARATING THE TIME-CONSUMING JOBS INTO PROPER GROUPS. RIGHT? READERS?
ANY READER WHO'S HELD DOWN AN OVERSEER'S JOB KNOWS YOU GOT TO BE OPEN TO ALL, ALL THE TIME. HEY WHAT, READERS? YOU TELL HIM.
4

Letters From Readers

Opposes Week Shut-Down for Christmas

"Winter Vacations"
(Pete & Bill, Dec., 1946)

Dear Pete & Bill:

I would agree with Pete about taking off the whole of Christmas week if it were used for maintenance repair, inventory, or similar work. But, to take it off for the holiday alone poses new problems.

Absenteeism is a problem which worries almost all employers, and taking a whole week off will not do any good to a campaign to eliminate absenteeism. It will tend to give employees the thought that another day off doesn't matter, since the mill just closed down for a whole week. If they have the definite idea that there is a useful purpose for closing the mill, that is different.

I assume, of course, that the office and the foreman, and the maintenance workers would work and be paid. But, how about the other time workers, and the piece worker? That wouldn't be too much of a Christmas for them to lose a week's pay.

With almost all workers on a five-day week, there seems plenty of time for shopping. As for the whole mill taking a vacation; well, a vacation without pay isn't very much.

So, on the whole, I'd say that if Christmas came on a Tuesday or a Thursday, might as well take off the day between the holiday and the usual Sunday off. But, when it comes to a whole week, experience has shown and probably will continue to show, that it just doesn't work out. (PB 102)

Care for the Old Aids Morale of the Young

"The Old Employee"
(Pete & Bill, Sept., 1946)

Dear Pete & Bill:

It would be showing poor gratitude indeed if every department head discharged all his elderly employees for no better reason than to replace them with younger people.

This is a matter that should be ap-

proached with much care and good judgment. Certainly these people should not be treated as a group, but each individual should be judged according to his or her merits and length of service.

Of course, as far as those who were hired during the last few years due to lack of younger help are concerned, the wise overseer told them at the time of hiring that their jobs probably would not be permanent, and he now has justification for letting them go in favor of younger and more efficient help. As for those who have been in service for many years, there are many places in every plant where they can be utilized to good advantage in most cases. Surely, it will be good for the morale of the younger employees to see that the plant takes care of its faithful employees of advanced years. (PB 103)

Social Contacts Make for Cooperation

"Supporting Social Events"
(Pete & Bill, Oct., 1946)

Dear Pete & Bill:

One of the most important things to be advanced in many moons is Pete's move to support social activities among mill men and their employees.

Again Bill is all wrong. Nothing, in my opinion, could be brought up that would tend to build cooperation and a genuine good feeling with all concerned than some kind of a social event at quite frequent intervals. Not too often, of course. I dare say there will be no opposition against such a movement. (PB 104)

Social Event Job Depends on Who's Host

"Supporting Social Events"
(Pete & Bill, Oct., 1946)

Dear Pete & Bill:

Social events can bring about rather peculiar situations depending primarily on local conditions.

If the occasion is something of the operatives' own choosing and is primarily for their own enjoyment, one can safely say the less the overseers have to do with it the better. It would, however, be an excellent idea for the superintendent to make a call some time during the evening; just a SHORT call to pay his respects. He would thus show his interest in anything that the operatives were interested in. But insofar as the overseers are concerned, let the employes have the evening to themselves, do not in any way put any restraint on their attempt to enjoy themselves to the full and in their own way.

However, should an evening of this character be arranged by the company which employs them, the situation would be different. Yet, even under such condition, which would naturally require the attendance of the overseers, a short stay on their part would be a wise proceeding. (PB 106)

Books of Interest

A Chemical Library in One Volume

HANDBOOK OF CHEMISTRY, by N. A. Lange; Sixth Edition; Handbook Publishers, Inc., Sandusky, Ohio; 2082 pages, $7.00.

Bound in Fabricoid and with gilt edges, this sixth edition of Lange's standard work contains much new material and has been thoroughly revised to cover up-to-the-minute developments. The index, with its more than 3,600 entries, renders the reference material readily accessible. The volume is designed to contain all pertinent information applying to any phase of chemistry. Its principal subdivisions are as follows: the elements, inorganic compounds, organic compounds, analytical chemistry, physical chemistry, industrial chemistry, and 271 pages of mathematic tables and data. Acknowledgment is made of the personal services of 90 scientists, industrialists, etc., who were of material assistance.

Wool Industry's Yearbook

BULLETIN OF THE NATIONAL ASSOCIATION OF WOOL MANUFACTURERS. Vol. LXXV; National Association of Wool Manufacturers, 80 Federal St., Boston, Mass.; 568 pages, $10.00.

The statistics of the wool manufacturing industry for 1945 are recorded and indexed in this annual publication. Activities of the association are reported and details given on the various important events and movements affecting the industry, including OPA, tariffs, testing specifications, etc. A good index makes all this information readily available.

Scientific Appraisal of Fibrous Proteins

FIBROUS PROTEINS; Society of Dyers & Colourists, 32 Piccadilly, Bradford, Yorkshire, England; 220 pages.

This volume includes 30 papers and discussions from the proceedings at a symposium on the subject of fibrous proteins at Leeds University, May 22 to 25, 1946. Half-tone illustrations, largely of X-ray photographs and photomicrographs, and line drawings and charts complement the text. Much of the research to date on natural and synthetic protein fibers is touched on.

Trigonometry Refresher

TRIGONOMETRY REFRESHER FOR TECHNICAL MEN, by A. Albert Klaf; McGraw-Hill Book Co., 330 W. 42nd St., New York 18, N. Y.; 630 pages, $5.00.

The author is a civil engineer with the Board of Water Supply of New York. He uses a question-and-answer method to explain plane and spherical trigonometry which gives the student rapid comprehension or the older worker quick revival of principles which may have become rusty. The treatment is especially designed to aid those who wish to apply trigonometry to various technological fields.

Data on Dye Trade

DYES, War Changes in Industry Series, No. 19; U. S. Tariff Commission; Supt. of Documents, U. S. Govt. Printing Office, Washington 25, D. C.; 124 pages, 25¢.

This volume surveys the background, the present status, and the postwar prospects of the U. S. dye industry. Numerous tables give production, foreign trade, etc., not only of the U. S. but of all other important producing countries in considerable detail.

Other Publications of Textile Interest

THE MARKET FOR COTTON TEXTILES, Vol. V, No. 7 of the Conference Board Industry Record; National Industrial Conference Board, 247 Park Ave., New York; 12 pages.

STUDIES IN THE STRUCTURE OF THE SWEDISH TEXTILE INDUSTRIES, by Folke Kristensson (in Swedish, with brief English summary; Industrieus Utredningsinstitut, Stockholm 16, Sweden; 504 pages, price 19 kroner.

DATA BOOK ON ALUMINUM ALLOYS AND MILL PRODUCTS; Reynolds Metals Co., Dept. 47, 2500 So. 3rd St., Louisville 1, Ky.; 248 pages, $2.00.

THE INDUSTRIAL REPUBLIC, by P. W. Litchfield of Goodyear Tire & Rubber Co., Akron, Ohio; The Corday & Gross Co., Cleveland, O.; 202 pages, $4.00.

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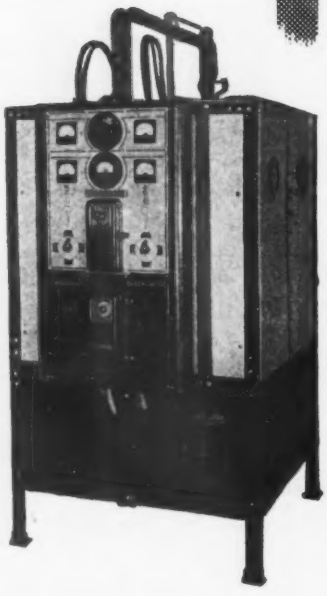

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Twist Multipliers For Good Plied Yarns

The short article on the best twist multiplier for plying cotton yarn (TEXTILE WORLD, Nov., p. 190) was quite interesting. As pointed out in the answer to that question, it is impossible to specify a twist multiplier that will yield satisfactory results in every case, since the amount of twist needed will vary with each yarn construction, yarn number, length of staple, number of plies, end use, etc.

I have had a great deal of experience in plying yarns, both sales yarns and weaving yarns; and I do not know of any "standard" multipliers that have been applied to twisting or cabling yarns. Many attempts have been made, as a result of considerable research, to arrive at such standards; but the requirements and characteristics of plied yarns vary so widely that these attempts have not met with much success.

Although the method of experimenting with several twist multipliers until one multiplier that yields the best results can be selected, as recommended in the article, is certainly the best possible procedure, I am listing a few details of plying as we practice them. The yarns plied with the following

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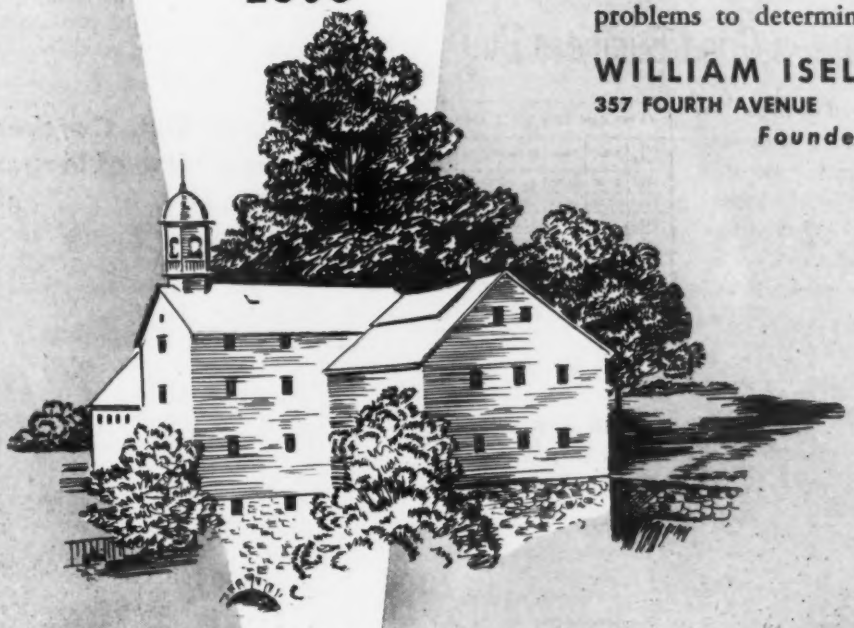
1808



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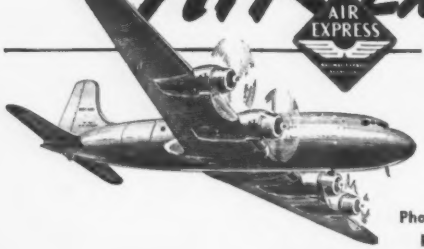

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twist multipliers are used for weaving such fabrics as twill, cord-effect dress goods, twill tent goods, etc.

Yarn count	Ply	T. M.
12	2	3.00
35	2	4.36
12	4	3.25
30	2	3.99
21	2	4.42
14	4	3.34
20	5	3.00.

(R-316)

Tenths of Yard Instead of Eighths

In the billing department of our office, we follow the general custom of billing our customers for goods by eighths of a yard. This fraction of measurement is rather clumsy to work with, and we should prefer to work with the much more convenient tenths of a yard.

We approached our selling agents with this idea, and they immediately objected upon the grounds that it is contrary to the general and accepted procedure. However, we can see no grounds for serious objection. It seems to us that this simpler method of billing would be as great a benefit to our customers as it would be to us, since they do as much accounting in their buying as we do in our selling.

It is true that at the retail level it probably would be necessary to maintain the division by eighths, since the retailer would not be disposed to enter upon a program of educating the public to buy in tenths of a yard. For the retailer to buy by tenths and sell by eighths of a yard would entail some degree of conversion of fractions, but mills are already performing such a conversion in buying raw stock by the pound and selling goods by the yard. (R-317)

Spooler Slub Catcher Prevents Use of Magazine

I read with much interest the prize-winning kink "Full-Bobbin Holder Speeds Non-Automatic Spooling" (TEXTILE WORLD, Sept., p. 164). The illustrations show how full bobbins of yarn can be arranged on a bobbin holder to obtain the effect of placing them in a magazine by tying the yarn tail on one bobbin to the starting end of the next bobbin on the holder. It is claimed that the use of this idea will speed up non-automatic spooling.

We experimented with this idea several years ago, and we had to give it up because yarn arranged in this manner cannot be adequately cleaned by the slub catcher or snick plate. This slubbing of the yarn is one of the important operations performed while spooling; and if the supply bobbins are

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Dark, slippery, oil-soaked floors absorb light, cause accidents and lower morale. But with the Tennant System *your floors can quickly be reconditioned* and made clean, dry and bright —real assets to your mill's production.

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tied together as suggested in the kink, the slub catcher must be opened sufficiently to allow the knots at the beginning and end of each bobbin to pass through.

Ordinarily, the setting of the slub catcher is so close that there would have to be some way devised to open the slub catcher to permit passage of the knots; and this job is particularly difficult to perform mechanically. *(R-318)*

Educate Loomfixers Before Installing Looms

Replacing old machines with new is always a serious matter to a mill. Aside from the dollars and cents involved and the production lost while the old machinery is being dismantled and the new installed, there is a period of unrest among the employees whose jobs are directly concerned. In addition to the uncertainty that prevails during the period when new job loads are being determined, the machine operators and fixers also feel uneasy because they are dealing with machines with which they are not completely familiar.

Bringing unfamiliar looms to a loomfixer, for example, is as unsound as hiring a loomfixer who is not familiar with the particular type of loom with which he must work. Why not give the loomfixer a chance to become familiar with the new looms being bought before the looms are installed and the expert from the loom manufacturer has gone?

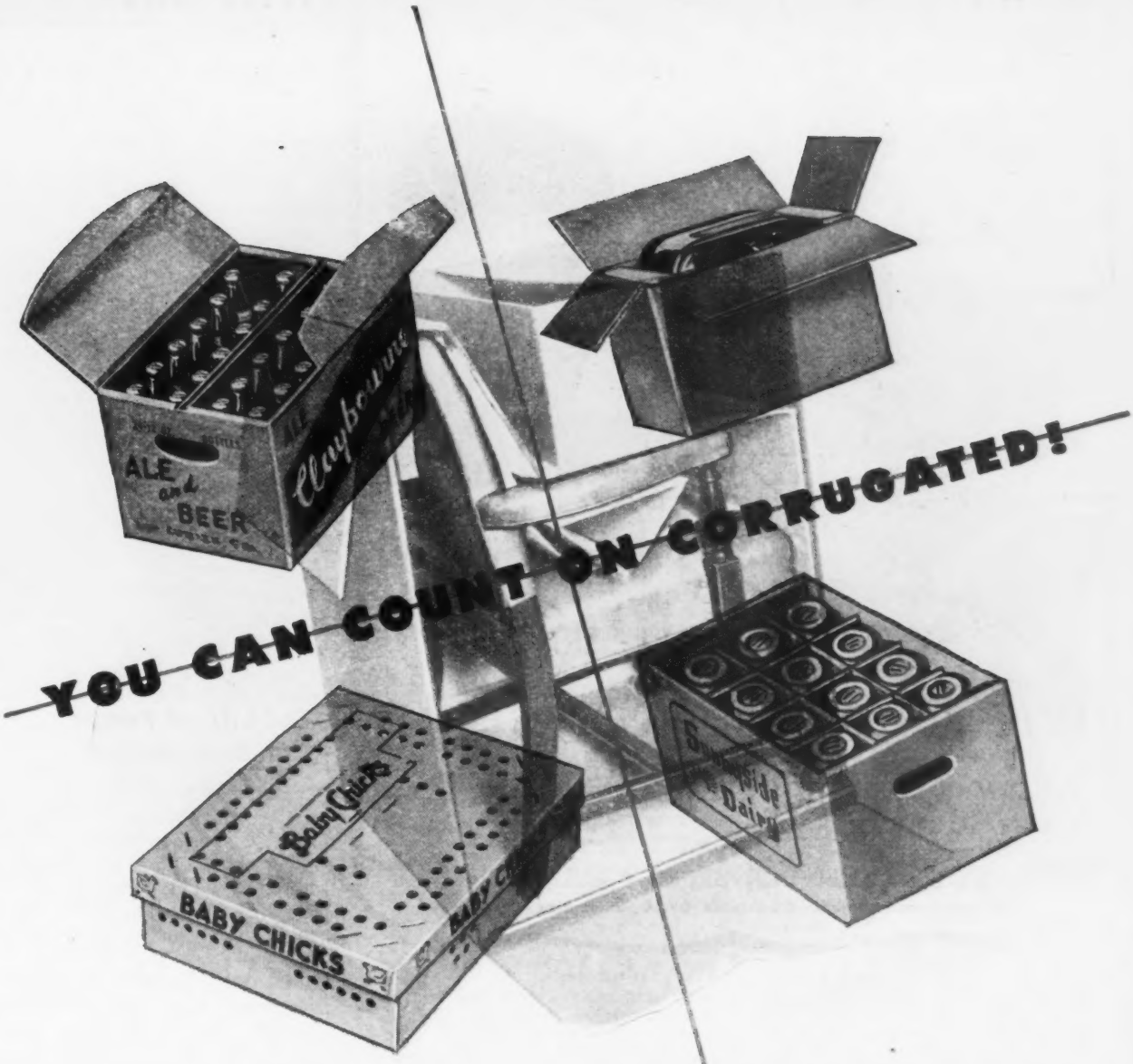
One way of doing this is to send the fixer, or other key man, to the loom works and let him study the loom under guidance of a manufacturer's expert. Such an approach has been tried often, and the results have been completely satisfactory.

By the time the looms are delivered and installation is begun, the mill has one of its own men completely "at home" with the new looms. This man can accomplish much in easing the minds of the operators, other fixers, etc. who must work with the new machinery. *(R-320)*

Questions and Answers Help Solve Mill Problem

Your answer to our question on running bright Delvisca yarn ("Lower Speeds Necessary For Running 'Straw' Yarn," TEXTILE WORLD, Nov., p. 186) was of considerable help to us.

We are running this yarn as filling in a bright-filament warp; and as far



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as the weaving is concerned, we are now having very little trouble. However, we never expect this yarn to run as well as multi-filament yarn because of the wiriness of Delvisca.

The cloth is being woven on Draper modified D-model looms at 156 p.p.m., and at present we have only twelve looms assigned to Delvisca. The yarn is received in cone and cake form, and the major portion of our trouble now is breakage during the quilling operation, which is done on a Universal No. 90 quiller equipped with disk tension control. We have tried various methods of quilling and are at present running the yarn with as little tension as possible, but we still have considerably more breaks than we have with our regular 150-filament yarn.

The appearance of the cloth, as pointed out in your answer, does have small, unfilled spaces and an appearance of overbeating; and we have not been able to overcome them. *(R-319)*

The Life of Pumps Can Be Prolonged

To prolong the life of the rods and shafts in pumps requires that a few rules of operation and maintenance be followed, according to information released by The International Nickel Co., Inc. A few suggestions for aiding in obtaining longer pump life are as follows:

Consult a reputable packing manufacturer in regard to the best type of packing to use for your particular needs, and do not permit any other kind of packing to be used.

Before putting in new packing, see that no particles of the old packing are left in the pump.

Make certain that the packing gland is tightened evenly. The nuts should be backed off two or three turns and tightened only with the fingers, providing, of course, that the rod or shaft is still smooth and perfectly cylindrical.

In a centrifugal pump, burned packing and scored shaft or sleeves can be prevented by permitting a small amount of water to seep continuously through the stuffing box while the pump is in operation.

To make packing last longer in a centrifugal pump, use a light grease on the new packing and cool the stuffing box from the outside until the packing is "broken in" and some sealing water leaks through the box.

When the packing becomes hard and dry, replace it at once. Do not try to stop excessive leaking by further tightening of the gland.

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4. The second burr cylinder guard picks and cleans the opposite or under side of the wool lap.

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Questions and Answers

Systems of Piece-Rate Pay Can Be Applied to Twisters

Technical Editor:

Can you give us any practical suggestions on installing a workable system of piece rates for Fletcher or Atwood double-deck twisters? These twisters are operating two shifts. (0143)

There are two or three very workable systems of piece-rate pay which can be applied to the operation of double-deck twisters.

Naturally, you will want to pay your employees for the amount of work done, and the majority of the work of operators on these machines is to replenish supply and take-up bobbins, and to piece up broken ends. Of course, there are additional duties, such as getting and delivering yarns, cleaning flyers, removing waste from machines, and possibly straightening tangled work; but the majority of the work falls into the first three operations.

Plan 1. If you institute a system of doffing the take-up bobbin at every break, you can pay your operators on the basis of the number of take-up bobbins doffed plus the number of supply bobbins creeled in. By making a time study or by keeping a record of what constitutes an average workday, you can easily set up a piece-work system based on these two items. Such a system works very well for voile yarns, combination yarns, and any other yarns that doff quite rapidly. The system does not work too well for high-twist, fine crepe production.

Plan 2. Operators can be paid a base rate with a bonus for high efficiency. This system is based on the number of ends down, as revealed by ends-down counts taken several times a shift, preferably no less than every two hours. Such a system should be coupled with a study of the normal number of ends that come down and should be based on giving the operators something less than a maximum number of ends to tend. This system

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is advantageous when high machine efficiency is needed, even at a sacrifice of operator production.

Plan 3. When high operator-production is needed, piece-work pay can be based on the number of spindles an operator tends. There are two special requirements for such a system: that operators always have more spindles to tend than they can keep up 100%, and that ends-down counts are made to show that the operator is not requesting a greater number of spindles than he is willing to keep running at a reasonable efficiency.

The problem with any system of piece-rate pay with fine crepe yarns is that the walking time in relation to the working time is quite high and the fact that a change in the running condition of the yarn (ends down) is such an important factor, since crepe yarn is extremely variable from lot to lot.

You have a special problem in that your twisters are operating only two shifts, and starting up the machines is undoubtedly a considerable job. With any system of piece-rate pay, you would have to make an allowance for starting the machines, or earnings would be higher on the second shift than on the first unless additional duties were given second-shift operators to offset the work of the first-shift operators in starting up the machines.

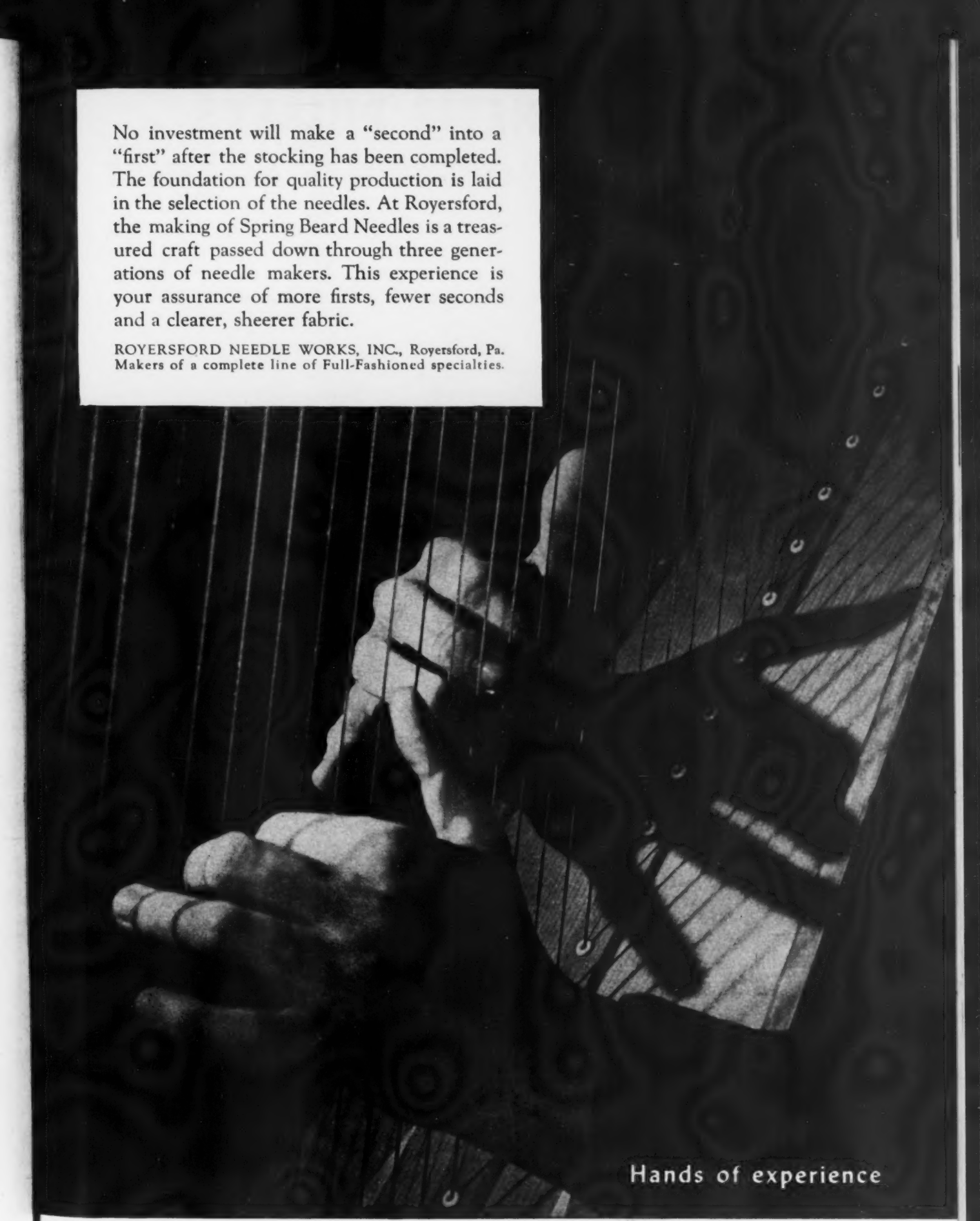
Slub Effect In Cloth Can Be Attained by Design

Technical Editor:

For some time, I have been endeavoring to weave a spun fabric from a plain spun yarn and to secure by the weave imitation slubs, in both warp and filling. So far, I have been unsuccessful in securing or making up a design that would simulate a nubby yarn in the filling alone or in the warp and filling together. The design is for print dress goods of very cheap grade. I have seen this effect in a fabric of similar nature but have not been able to find a sample of the fabric or to work out a design. Can you provide me with such a design? (9145)

About twelve years ago, imitation slubs were quite popular, and many mills that had dobby looms were making one or more fabrics containing slub effects. The arrangement and weave were limited only by the number of harnesses used.

There are several ways in which a slub effect may be secured by the design of the weave. A broken cord or rib weave, in warp or filling, will give this effect, the appearance depending somewhat upon the construction of the fabric. The number of ends, picks


No investment will make a "second" into a "first" after the stocking has been completed. The foundation for quality production is laid in the selection of the needles. At Royersford, the making of Spring Beard Needles is a treasured craft passed down through three generations of needle makers. This experience is your assurance of more firsts, fewer seconds and a clearer, sheerer fabric.
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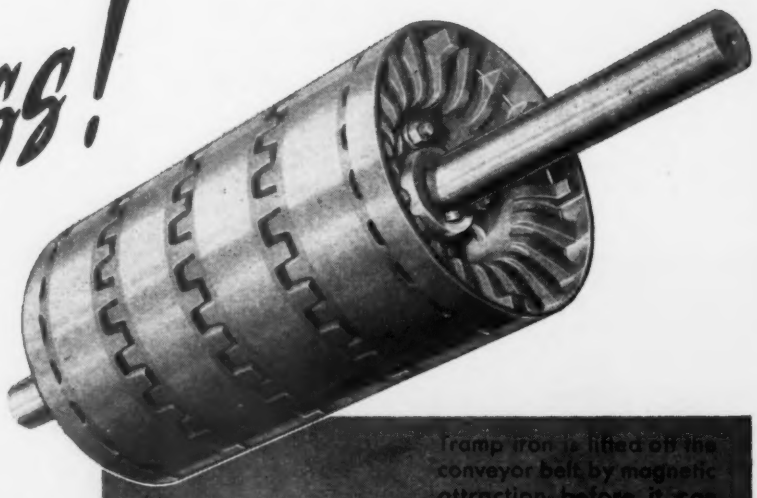
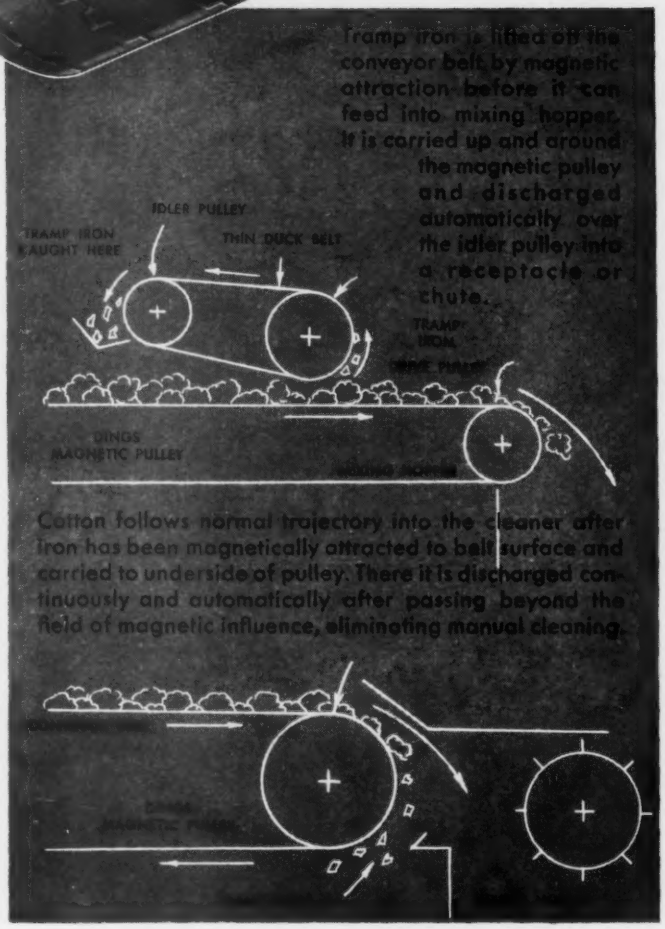


EFFECTIVE tramp iron removal on conveyor belts is a man-sized job—it requires the greatest possible magnetic strength. Dings Magnetic Pulleys have that strength—*with many times the effective range of non-electric magnets!* Estimates indicate that 80% of all opener-picker fires are caused by tramp iron. *Lost production—damaged machinery—costly repairs are the result.* You can eliminate these losses in your mill by installing the powerful, positive protection—Dings Magnetic Pulley protection—offered by the world's largest exclusive manufacturers of magnetic equipment. Write Dings for complete data today.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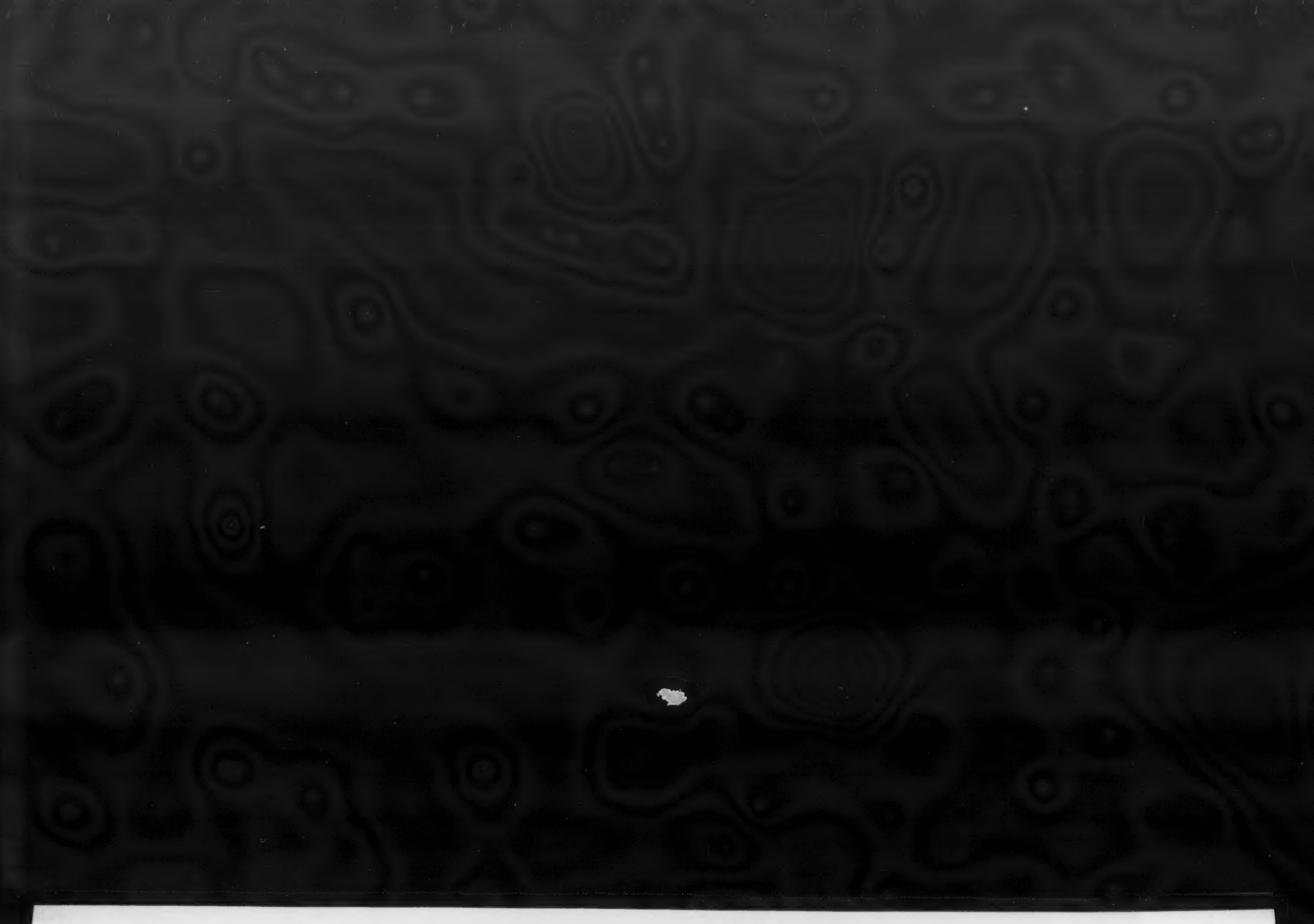

MANUFACTURERS' BULLETINS

***READERS** may secure copies of literature reviewed on these pages by using the post cards below. Fill out COMPLETELY one coupon for each piece wanted.*

Free FOR THE ASKING

1. Gummed labels for a wide variety of business and industrial uses are cataloged in "Tools of Business," published by Ever Ready Label Corp. Types, sizes, and shapes of labels shown are designed for shipping, mailing, and filing uses.

2. Fluorescent fixtures for spot and continuous-strip installations are described and illustrated in two bulletins issued by Day-Brite Lighting, Inc. Bulletin 10-B-1 catalogs 40- and 100-watt "Vis-Aid" fixtures; Bulletin 10-B-2 covers 40-watt "Topnotch" open-end fixtures.

3. Strip-chart potentiometers are catalogued in Bulletin 15-10 published by Brown Instrument Co. The catalog describes standard-speed, fast-speed, and high-speed potentiometers; auxiliary switches; controllers; and indicator and thermocouple assemblies.

4. Chain hoists of spur-gear and differential types, roller-bearing equipped, are described and illustrated in Catalog G 558 issued by Chester Hoist Co. The 16-page booklet also describes low-headroom-type trolley hoists, provides maintenance and operating tips, and presents tables giving characteristics and load data of the various sizes of hoists.

5. Properties of AlSiMag ceramic compositions have been listed in a 25x12-in. chart issued by American Lava Corp. Physical, electrical, mechanical, and chemical properties of the more frequently used compositions are given.

6. Magnetic pulleys and magnetic brakes are described and illustrated in two catalogs published by Stearns Magnetic Mfg. Co. Catalog 303 contains descriptive data, specifications, and information on selecting proper sizes of magnetic pulleys; Catalog 604-D contains data, specifications, forms for mounting of brakes, and general information on magnetic pulleys.

7. Pneumatic remote transmission systems designed for applications where other types of transmission for indicating, recording, and control of temperature, pressure, flow, and liquid level are not desirable or permissible are described in a 24-page catalog No. 5902, published by The Brown Instrument Co. A section is devoted to accessories, such as valves, orifice plates, and charts.

8. "How Fog Was Dissipated in a Textile Plant" is one of the subjects covered in Vol. 10, No. 4, of "Weather Magic" published by The Trane Co. The story describes the elimination of a serious condensation and erosion condition in a large Southern bleachery.

9. Pneumatic transmission of instrument readings over long distances is the subject of Bulletin No. B59-2 published by The Brown Instrument Co. The bulletin describes Brown New-Matic system of transmission and analyzes such factors as speed of transmission, response of controller under varying pressure conditions; describes the tests made to determine speeds of pneumatic transmission; and summarizes the recommendations based upon these tests.

10. History of weaving is the subject of a 25x39-in. four-color lithograph published by A. E. Staley Mfg. Co. The 12 drawings reproduced depict the weavers of India, Egypt, Spain, China, France, West Indies, Mexico, Peru, and North America.

11. Hercules Powder Co. products employed in the manufacture of protective coatings are listed according to use in a four-page folder published by Hercules Powder Co. Also, brief descriptive matter explains why specific products are used for the indicated purposes. Listings include lacquers, oil varnishes, synthetic-resin-base varnishes, oil paints, bituminous and roof paints, marine paints, japans, ester-gum varnishes, natural-resin varnishes, cold-cut and spirit varnishes, interior and exterior water paints, and thinners.

12. Steel-plate dryer rolls are illustrated and described in an 8-page folder, Form 310 2-46, published by Lukenweld, Inc. The folder discusses strength, rapid heat-up, operating economies, elimination of warpage, and performance of double-shell and labyrinth-type rolls.

13. "Production Decalog" is the title of a 40-page brochure published by George Fry & Associates. The booklet outlines ten essential elements of an effective production-engineering program.

14. A pressure gauge designed to be used in almost any instance where mechanical pressure can be measured and also to be used as a textile tensometer

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is described in a two-page folder published by W. C. Dillon & Co., Inc.

15. Nine types of reflector lamps for industrial, commercial, and other uses are illustrated in a new bulletin, No. 101, issued by Lustra Corporation of America. Included are direct and concentrator lights, tubular and floodlights, and spotlights in sizes from 25 to 1000 watts for 115 to 125 v.

16. Vulcalock rubber-lined products and their chemical-, corrosion-, and abrasion-resistant properties are discussed in Catalog Section 9,000 published by The B. F. Goodrich Co. Service recommendations and general information on Vulcalock rubber linings are given; various products and types of construction are listed and described.

17. "More Power to U. S. A." is the title of a new 32-page bulletin, issued by Allis-Chalmers Mfg. Co., which describes and portrays the company's products commonly used on generating, substation, transmission, and distribution systems. The bulletin presents equipment ranging from steam and hydraulic turbines, turbo generators, engine-type generators, condensers, and auxiliaries to pumps, water conditioning, motors, motor controls, switchgear, circuit breakers, power and distribution transformers, and unit substations.

18. "Easy Guide to Electronic Tube Data" is the title of a data book issued by Westinghouse Electric Corp. The book is designed to make tube replacement quick, easy, and accurate by listing tubes according to family and by giving all essential technical data on each tube.

19. Ribbon breaker cam settings on Roto-Coners are explained in No. 60 of "Getting the Most from Winding," published by Universal Winding Co. Also described are new spindle-holder-bearing plate for Roto-Coners, No. 44 tension brackets for No. 60 winders, and method of locating the thread guide on No. 90 winders.

20. Getting maximum production from existing plant facilities is the theme of a 32-page, full-color booklet published by Remington Rand, Inc. The booklet describes a chart-board application of the time-control principle and demonstrates its operating and control advantages as applied to loading and scheduling of machines, men, or work centers; orders and operations; scheduling of production; inventory control; and sales management and control.

21. Stainless steel pipe, tubing, and fittings and a table of the chemical composition of the most popular types of AISI numbers of stainless steel are shown in a folder published by John B. Astell & Co., Inc. A cross-sectional view of the new Ermeto fitting illustrates how a seal is formed without flaring, threading, welding, or soldering of pipe or tubing.

22. Motor maintenance tools designed to conserve present equipment are described in a 10-page illustrated catalog published by Holub Industries, Inc. Included are: commutator and slip-ring resurfacing stones, polishing stones, commutator saws and milling cutters, carbon-brush seaters, blowers and vacuum cleaners, a varnish insulation sprayer, voltage and circuit testers, wire insulation strippers, live centers, and fuse reducers.

23. A.C. transformer-type welders are described and construction details, electrical specifications, and application data are given in a new booklet published by Westinghouse Electric Corp. Detailed information is given on 500- and 400-amp. industrial welders, 300-amp. welders for heavier-than-average work, and the general-duty welders ranging from 20 to 250 amp.

24. Gravity-type conveyors for handling materials, portable endless-belt conveyors, and end-wood hand-truck and trailer wheels are described and illustrated in a 6-page folder published by Metzgar Co.

25. Conditioning of water and other liquids is described in a 60-page bulletin published by Liquid Conditioning Corp. The bulletin describes many different types of water-conditioning processes and explains the applications, advantages, and limitations of each type. Included are tables listing the various kinds of gaseous and solid impurities, showing effects, limits of tolerance for various purposes, methods of removal, and residual amount of each impurity after treatment.

26. Welding and cutting products catalog has been published by The Air Reduction Sales Co. The catalog is divided into two sections: one for oxyacetylene welding and cutting gases, equipment, and supplies; the other for arc-welding machines, accessories, and electrodes.

27. Couplings for industrial and marine service are described and illustrated in a 46-page bulletin, No. 447, published by Farrel-Birmingham Co., Inc. The booklet gives a description of coupling functions, plus recommendations of the correct types for specific applications. Included also are complete engineering data with ratings, dimensions, and weights.

28. Acid- and alkali-resistant pumps, type CG, are covered in a 20-page, illustrated descriptive booklet published by Worthington Pump & Machinery Corp. The bulletin covers specifications, applications, sectional diagrams, performance curves, etc.

TO GET MORE INFORMATION

1. Fill out completely one space (name, title, company, address, and item number) for each bulletin wanted. Put only one number in each square.

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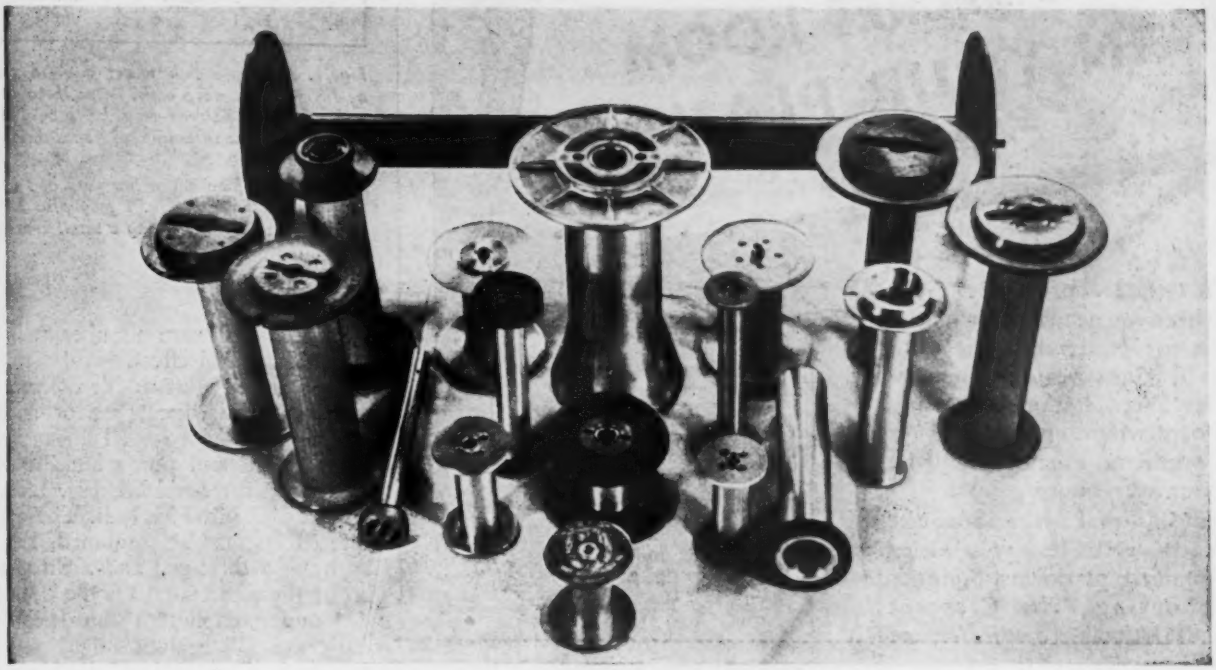

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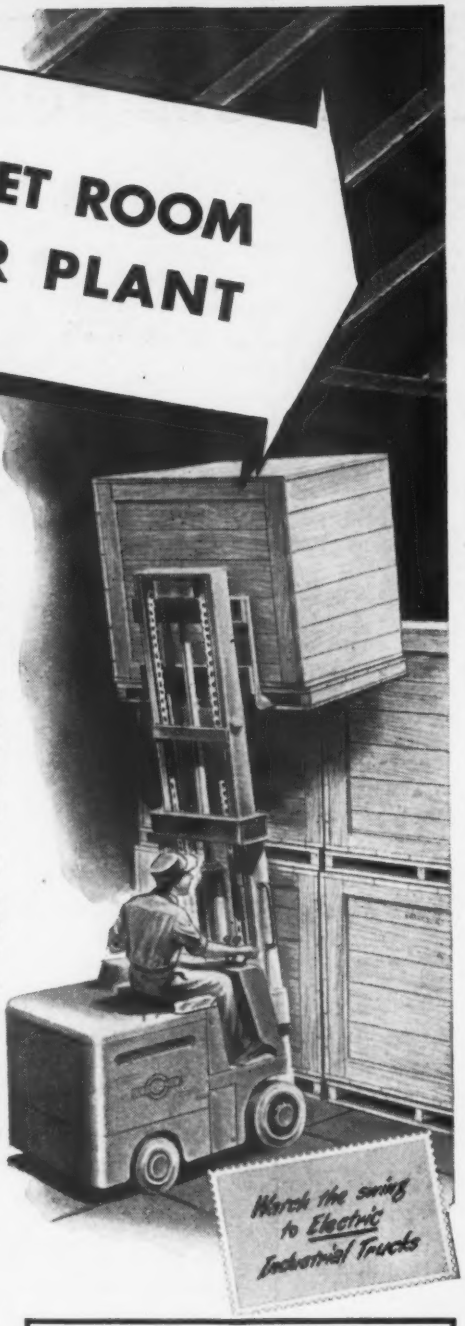

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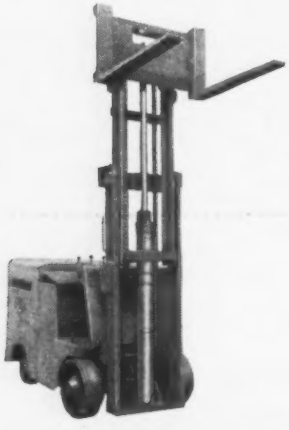

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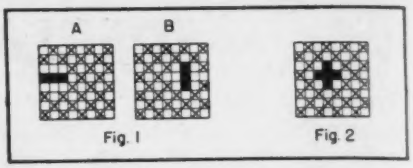


Fig. 1. A simple slub effect can be woven by lifting three warp ends, A, or three filling ends, B. This pattern may be repeated as often as the construction of the fabric will permit.

Fig. 2. A combination of the warp and filling slub effects shown in Fig. 1 may also be applied to the fabric, yielding a small cross-slub effect.

per inch, and yarn number will influence the final effect.

One of the most simple designs for obtaining the appearance of a slub consists in using a 1-up, 1-down weave as a ground and producing the slub effect by a three-end lift, Fig. 1, A, or a three-pick lift, Fig. 1, B. These two slub effects may be combined, Fig. 2, by using a three-end and a three-pick lift at the same point on the design.

A more complicated slub design for warp and filling slubs might use 16 harnesses, with each filling slub requiring two harnesses and each warp slub using only one. Slubs can be enlarged by using five floats instead of three, or they can be tapered by using a combination of five and three floats.

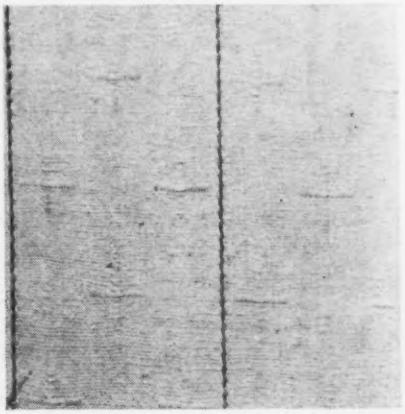
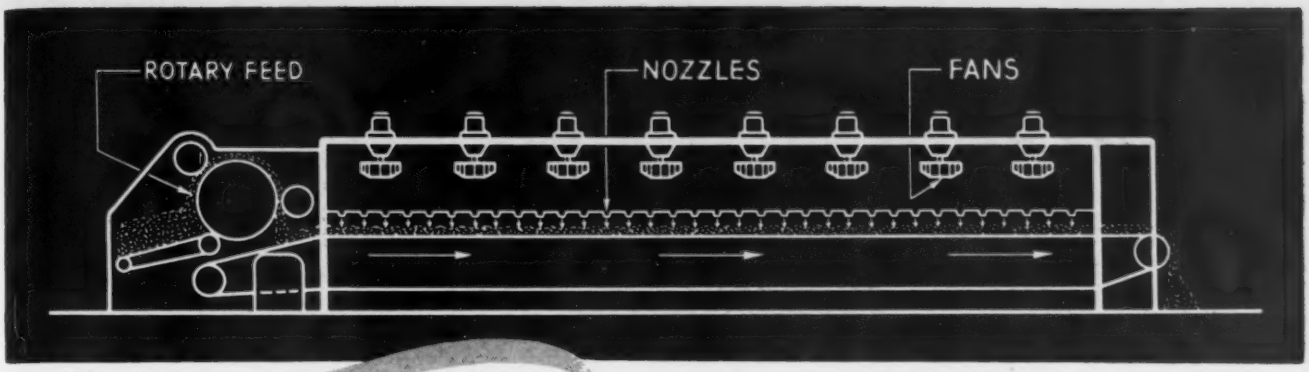


Fig. 3. A fabric in which is woven a combination warp and filling slub effect, a similar design of which is shown in Fig. 2. In this fabric, a 7-end warp and a 5-pick filling lift were used.

Kinkiness of Wool Fibers Can Be Accentuated

Technical Editor:

We are interested in a chemical or physio-chemical treatment of wool fiber which will accentuate the curliness (kinkiness) of the fiber. We visualize a treatment which can be applied to virgin or reprocessed wool before carding to cause the



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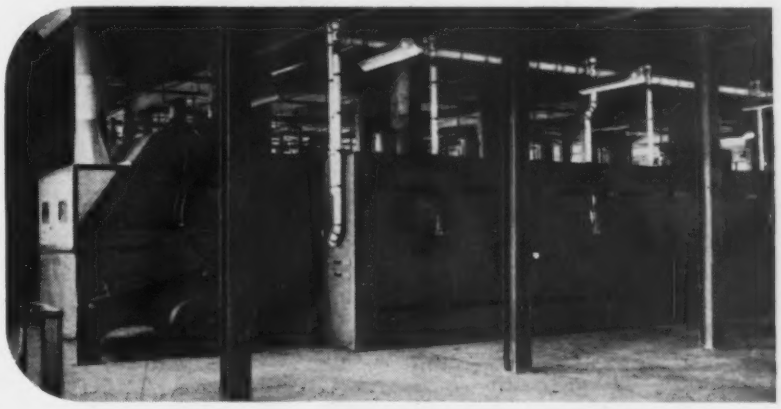

telling us as much about your problem as possible. Our engineers will gladly show you how the Proctor impact dryer can fit into your production line.

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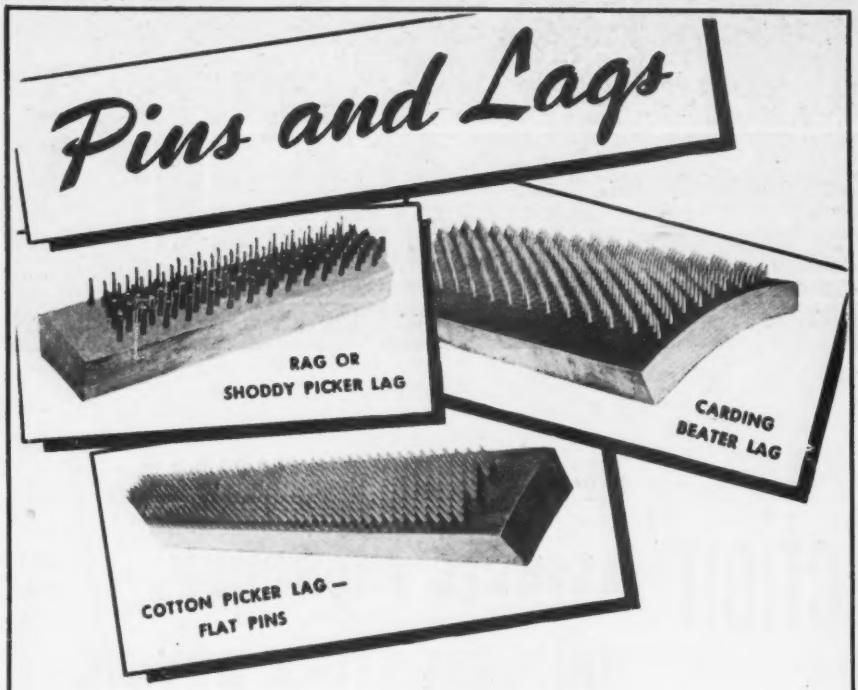

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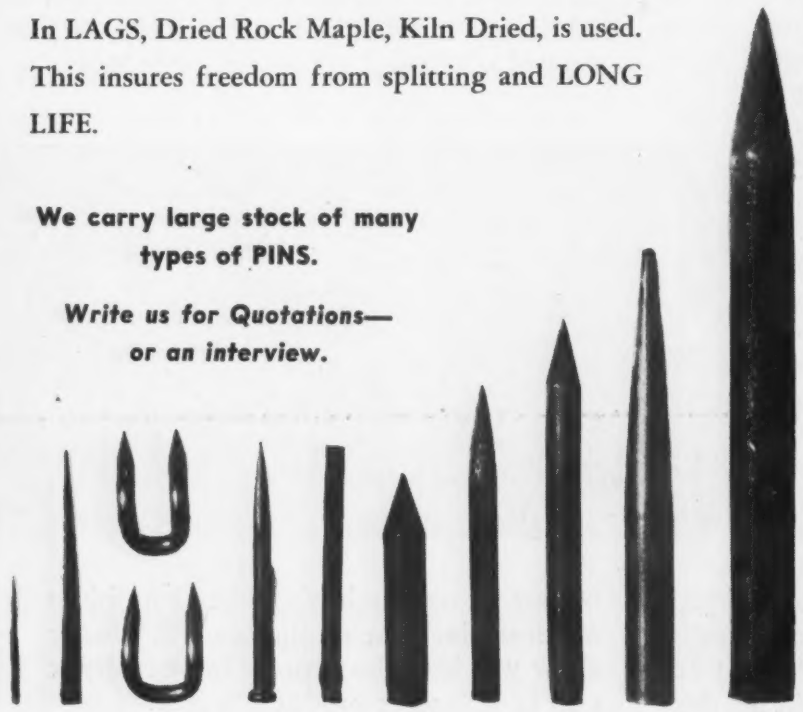


WILLIAM CRABB & CO.

301 THIRD AVENUE **NEWARK, N. J.**

fibers to curl up, possibly as a result of shrinkage.

If you are acquainted with such a treatment, we would appreciate receiving your comments. (9142)

There is a treatment which has been used for accentuating the curliness or kinkiness of the wool fiber. In this treatment, the wool fiber is subjected to a solution of bisulphite of soda and then steamed for one hour.

Thioglycollic acid is also a possibility for producing the effect desired, and you very likely will want to do some experimental work with bisulphite of soda and thioglycollic acid separately and in combination.

Graph Curves Are For Practical Use

Technical Editor:

I would like to comment on the graph on page 111 of the November issue of TEXTILE WORLD.

Shouldn't the determination of pH values by means of a glass electrode (with proper precautions at high pH) be preferable to a colorimetric method, on the ground that it is more fundamental?

As a matter of theory, all the curves must be smooth and without the many points of inflection.

Finally the curves must meet at the *y* axis. As the graph reads, it indicates that the pH of pure water may vary between 1.5 and 11 depending on what solute is not dissolved in it. (9157)

On the graph pH curves appearing in the November issue of TEXTILE WORLD, the curves should have been smooth and without the dips and rises as shown; and they should have continued along the y axis to pH 7.0. The curves were drawn in long-hand on graph paper and then photostated, and were taken from several other reference sheets to make this composite. These discrepancies occurred in this transposition.

These curves were accumulated and worked out over a period of years. Some of them were made quite a long time ago when potentiometers were not quite what they are today, and the glass electrode had not replaced the quinhydrone.

Since the publication of this chart was planned, largely, for use of textile bleachers and dyers and for control purposes in various departmental operations, the colorimeter methods of determination are sufficiently accurate for all practical purposes. Also, many of the plant supervisors and operators are more familiar with color slides and disks than they are with the potentimeter.

TEXTILE BANKING COMPANY

Inc.

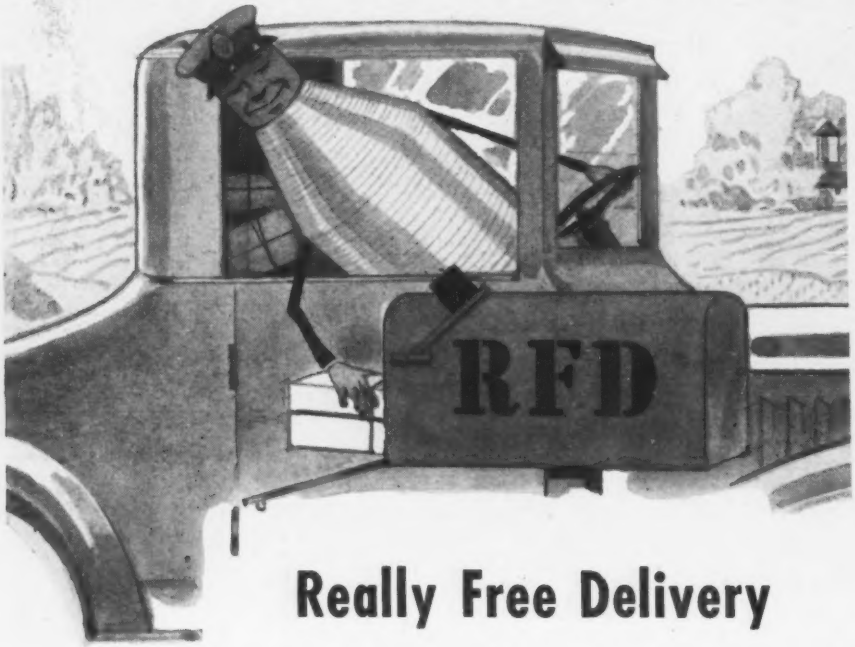
Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE · NEW YORK

A·P·T· YARN CARRIERS

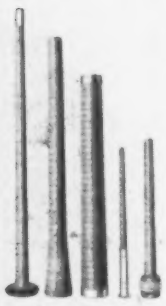
From Material to Design—
Built to Industry Requirements



Really Free Delivery

To the nation at large RFD means "rural free delivery". To textile mills which use A.P.T. Yarn Carriers it means "really free delivery." Reasons include elimination of static and absence of distortion. At the same time delivery is controlled because of deep well rounded corrugations in the barrel.

The barrel of an A.P.T. Yarn Carrier is made of laminated paper, wound around a former of the same size and dimensions as the spindle on which the carrier will be used. It is impregnated for moisture resistance and hardened by baking.



Thus the barrel is always concentric with the spindle, has perfect balance, and STAYS that way.

Other industry requirements for the perfect yarn carrier which A.P.T. Products satisfy are: Freedom from splintering or chipping, perfect spindle cling, high resistance to splitting, light weight, great strength, and low ultimate cost.

Give these superior carriers a chance to improve the quality of your production and to reduce costs. They are adaptable to the spinning, twisting or weaving of all types of fibres.

AMERICAN PAPER TUBE COMPANY

ESTABLISHED 1898 • WOONSOCKET, RHODE ISLAND
SALES OFFICES—GREENVILLE, S. C., NEW YORK, CHICAGO

Warp Beams

(*Continued from page 133*)

able-voltage bus furnishing armature power to the other motors in the range without increasing generator capacity. It is necessary, then, to add only an electronic or a rotating regulator to supply excitation to the motor field and to regulate field voltage in such a manner as to maintain the armature current constant throughout the doff.

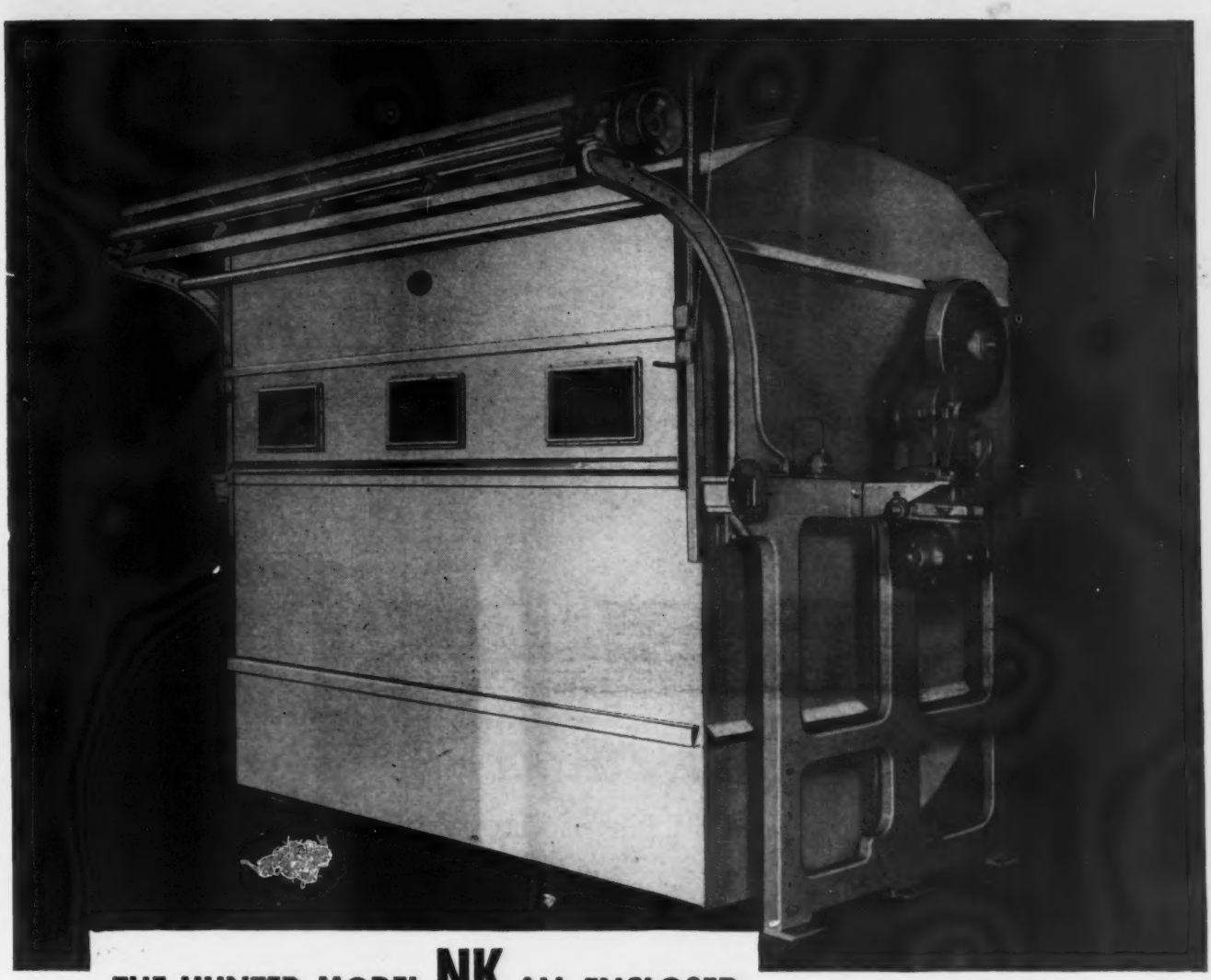
A close approximation of the total price of the components required is $775.

However, where the diameter range is 4 to 40 in. (1-to-10 ratio) a regulator controlling field voltage alone is incapable of satisfying the requirements. Direct-current motors suitable for such a wide range of speed adjustment by field-voltage control are not manufactured for general sale and are not practical for design reasons. Accordingly, it will be necessary to provide for regulating both field and armature voltages; so that, as the beam diameter increases, provision will be made for gradually strengthening field voltage and then, as the full-field condition is approached, to reduce gradually armature voltage until the beam is full. Because it is necessary for the control to adjust armature voltage here while the voltage applied to other motors in the range remain fixed, a separate source of d.c. power must be provided for the winder-motor armature as well as for its field.

Under these operating conditions, a dancer-roll type of control must be used. To the dancer-roll will be connected the rotor of a small control selsyn, and excitation for this device will be furnished from an a.c. power supply. The selsyn furnishes an electric signal proportional to dancer-roll position; and this signal, when rectified, is the means for controlling the motor-field and armature voltage. That signal is fed into the control circuit of an electronic motor-control panel of the Thy-mo-trol type. Thus, with variations in dancer-roll position, field and armature voltage are adjustable automatically to cause motor speed to change in accordance with requirements as the beam diameter increases.

The transition from field to armature-voltage control also is accomplished automatically.

Assuming that a motor capable of 4-to-1 speed range by field control were to be used, the balance of the 10-to-1 total range would have to be secured by armature-voltage control. Thus, the motor would have to be capable of producing 1 hp. over a 2.5-to-1 armature-voltage range. This immediately necessitates increasing its frame size to a 3-hp. equivalent in order to insure



THE HUNTER MODEL NK ALL ENCLOSED STAINLESS STEEL PIECE DYE KETTLE FOR MODERN DYEING AND BLEACHING

Illustrated on this page is the newest Hunter addition to modern dyeing and bleaching requirements. Its many features affords the user these distinct advantages:

a. Vibrationless construction: all driving and driven members supported in newly designed separate frames.

b. Vari-speed drive for main reel for increased flexibility.

c. A size and type for any piece dyeing or bleaching requirements.

d. A tight top enclosure which is windowed and lighted, saves up to 35% of steam for the dyeing cycle. Entire Kettle may be insulated if required.

e. Proved performance on fabrics ranging from mohair plushes, woolens, worsteds, unions and blankets to spun rayons, etc.

If you contemplate replacing or expanding your present dye house units, it will pay you to ask Hunter for details. Simply write for our new bulletin today.

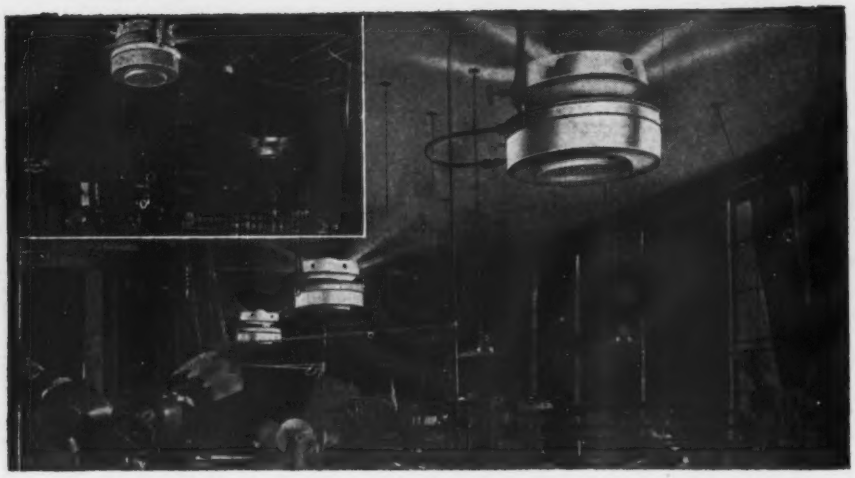
JAMES HUNTER MACHINE CO.

NORTH ADAMS, MASSACHUSETTS, U.S.A.

FOUNDED 1847

Today a must

The Use of Synthetic Fibres Makes the Question of Proper HUMIDIFICATION of Paramount Importance



Walton

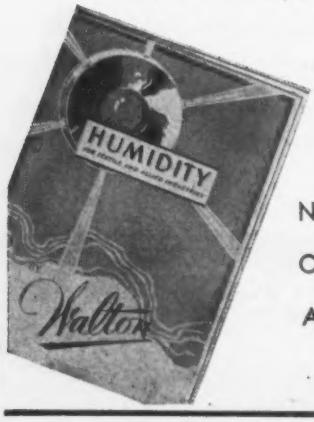
Humidifiers easily and quickly installed

Rapid increase in the production of synthetic fibres emphasizes the need NOW for uniform, adequate and accurately controlled HUMIDIFICATION.

One-way, two-way, or multiple direction domes are provided, as required. Furnished complete, ready for immediate installation.

Get all the facts about WALTON Equipment. Send for your copy of "HUMIDITY." Coupon is provided for your convenience.

WALTON LABORATORIES, INC.
Irvington 11, N. J.



WALTON LABORATORIES, Inc., Irvington 11, N. J.
Please mail me copy of "HUMIDITY"

NAME .....

COMPANY .....

ADDRESS .....

.....

T.W.-1

that there will be sufficient torque available and the necessary motor radiating surface to dissipate the heat generated under the low-speed operating conditions.

In such an outfit, the electric components would be priced at approximately $1,375. The cost of the dancer-roll itself must be added to this figure, though it is not needed where large cores are used. Obviously, then, if beams of small diameter are used, the mill will be required to pay a 75% premium for the electric elements, plus the price of whatever type of dancer roll is employed.

OTHER FACTORS. There are other considerations which militate against the adoption of the smaller centers. For example, the strength of flanged warp beams is reduced and problems of alignment are introduced with decreased core diameters.

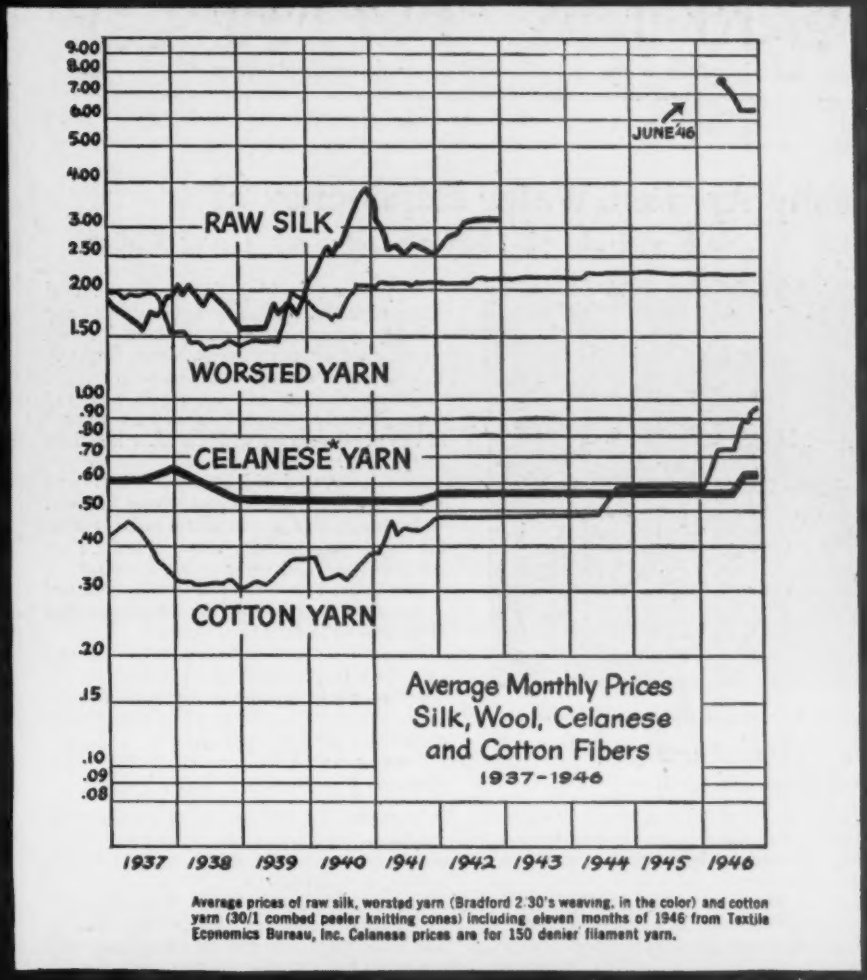
Mills are becoming increasingly concerned about the problem of crushing inner layers of yarn or fabric on a wound beam. New synthetic materials are particularly vulnerable to damage from this source. Similarly, the creasing which often occurs on the inner layers contributes to low quality in the finished fabric. When the winding is done on small cores, many extra wraps or layers are wound, a greater depth of fabric applied, and conditions are, therefore, more conducive to the occurrence of those faults.

On the warper and at the beamer end of a slasher, compress rolls and traverse mechanisms are employed to roll individual ends into the crevices formed between adjacent yarns as each attempts to wind continuously upon itself. When an end does roll into the groove, and until it fills the groove to the mean beam level, that yarn runs at reduced tension. At small beam diameters, where the depth of groove is of appreciable magnitude relative to the beam diameter, the magnitude of the tension error is proportionately greater (as compared with the case where larger cores are used). There is no need to dwell on the effects of end-to-end warp-tension variations upon the quality of the finished fabric.

All that has been said here is applicable also to unwinders, such as at the entry end of finishing ranges and on the slasher let-off.

It is recognized that a policy of scrapping a large investment in small-diameter beams cannot, in most cases, be justified economically. Nevertheless, the apparent advantages accruing from the adoption of larger cores are of sufficient value that serious consideration may well be given to their use in replacement purchases or expansion programs.

Synthetics are a great stabilizing force throughout the textile industry



Average prices of raw silk, worsted yarn (Bradford 2/30's weaving, in the color) and cotton yarn (30/1 combed peeler knitting cones) including eleven months of 1946 from Textile Economics Bureau, Inc. Celanese prices are for 150 denier filament yarn.

THE importance of synthetics as a stabilizing force in the textile picture was never more vital than today. The ten-year record of prices of Celanese* yarn, as typical of synthetic yarn operations, shows remarkably little variation. This record is in strong contrast to the sharp rise in prices of natural fibers since the beginning of the war and the current fluctuation in raw material prices. In the field of synthetics there need be no deflation because there has been no inflation.

The synthetic fibers—unaffected by the whims of Nature and with uniform quality scientifically controlled—are relatively free of the hazards of weather, shipping and world market speculation that affect natural commodities. Mills operating with synthetic yarn find that buying futures or hedging is unnecessary and that the maintenance of large and costly inventories is not required. Production can be planned on the basis of known cost and uniform quality. This stability of price is a factor of prime importance to mills producing fabrics of all-synthetic yarn and combinations of synthetic yarns and other fibers.

The broad field of synthetics has enormous resources for still wider benefits to industry and the public. Celanese operations in this field include textiles, plastics and chemicals. The goal of Celanese is to provide through continuous research more and better products at prices that permit the greatest number of American homes to enjoy them. Quality manufacturers are proud to identify their products as made of "Celanese yarn" or "Celanese* plastic". Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

*Reg. U. S. Pat. Off.

Celanese*

CHEMICALS . . . TEXTILES AND PLASTICS

ONYX IONICS

Newsworthy items for textile technologists and production men

Vol. 1 January, 1947 No. 1

Easily Applied Water Repellency of Excellent Durability at Low Cost

Showing Water-Repellent Action of Repel-O-Tex

If you are looking for an economical water repellent treatment applicable to any suitably prepared fabric without curing, washing or after-treatment, Onyx Repel-O-Tex deserves careful consideration.

Cotton, viscose, acetate, rayon and any other properly prepared fabrics are treated in the usual manner with no after handling in the mill.

Textiles treated with Repel-O-Tex D3 and D4 have a spray rating of 100 and fall well within the limits of accepted standards after the usual wash and dry cleaning tests. They are also stain and perspiration resistant.

Any desired hand or finish can be obtained at the same time by varying the proportions of Repel-O-Tex D3 and D4 used.

Durable water repellency at no greater cost than is provided by ordinary fugitive water repellent finishes is a worthwhile objective for a wide variety of fabrics readily attained with Repel-O-Tex.

Safe . . . One-Treatment Finish for Nylon Hose

In addition to exceptional snag-resistance, good body, well clarified stitch and adequate dulling, Eternalure D-15 offers many production advantages. It will not build up deposits on the forms. Finished hose does not stick to the forms. It is a *one-treatment* finish requiring no changes in equipment or operations.

Eternalure D-15 is proving of unusual value in giving stiffness to 15-20 denier hose to facilitate easy handling after boarding.

Dermatological tests have proved Eternalure D-15 to be non-irritating and non-sensitizing. It is completely safe for contact with human skin.

New Scouring and Dyeing Assistant

A very effective wetting agent which does not lose its surface-active properties in hard water and which provides excellent foaming action has been developed in Onyx Sorolene. This alkylated aromatic sulfonic acid derivative in powder form also has considerable detergent effect.

Onyx Ionics

"Onyx Ionics" makes its first appearance with this advertisement. It will appear in future pages of this publication, and will also be published in bulletin form, with practical production data on textile finishing.

If you want to be sure of receiving this four-page "Onyx Ionics," drop us a line asking that your name be put on the mailing list.

Onyx Technical Service

Use-formulae for any Onyx product are readily available and can usually be worked out in the mill without calling in an Onyx technical representative.

However, there are often times when the application calls for definite results, on which the experience of an Onyx man with the use of a material in many other mills will be of great value in working out a suitable use-formula.

In any event, you are free to call on the knowledge and experience of these trained textile service men, not only on problems connected with the use of Onyx products, but on any other related textile production problems on which you feel they might be of assistance.

NEW DEVELOPMENTS

For Further Data Write Onyx

•

Stiffening Organdy, Ninon, Marquisette, etc., is especially effective with new Onyx Resin 362. This viscous dispersion of vinyl resin, containing 52-54% solids, requires no curing and has no solvent content. Also applicable to all types of fabrics. No. 43

•

Scroop Finish for Tubular Knit Goods is the outstanding function of Onyx Silk-O-Ray SG. It is a water-soluble white paste with a lasting effect. • No. 45

Simultaneous Scouring and Acid Dyeing of Wool is highly satisfactory when Neutronyx 330 is used. This unusual non-ionic surface-active agent has a powerful emulsifying action. It is completely stable in neutral and acid solutions. No. 46

onyx

Onyx Oil & Chemical Company

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In Canada: Onyx Oil & Chemical Co., Ltd. Montreal, Toronto, St. Johns, Que.

For Export: Onyx International Jersey City 2, N. J.

AATCC Jubilee

(*Continued from page 141*)

cause a loss in abrasion resistance on spun rayons. Combinations of these products with the styrene compound reduced this loss to a minimum and in some cases showed an actual gain.

In the search for compounds which would tend to fix the styrene resin, the discovery was made that a quarternary ammonium compound had the power to combine in such a manner as to yield excellent durability. Cottons and spuns may be finished either by a single bath or by a two-bath process.

Mixtures of the water-soluble alkyd resin with melamine-formaldehyde resin yielded durable finishes on cottons and spuns. Like the styrene resin, the alkyd showed a surprising ability to counteract the decrease in abrasion resistance on spuns produced by melamine-formaldehyde resin.

In sharp contrast to the combination of styrene resin with the quarternary ammonium compound, the corresponding mixture of the latter with the alkyd resin resulted in resin precipitation in the bath. Because of this fact, a two-bath process was used to produce the desired results.

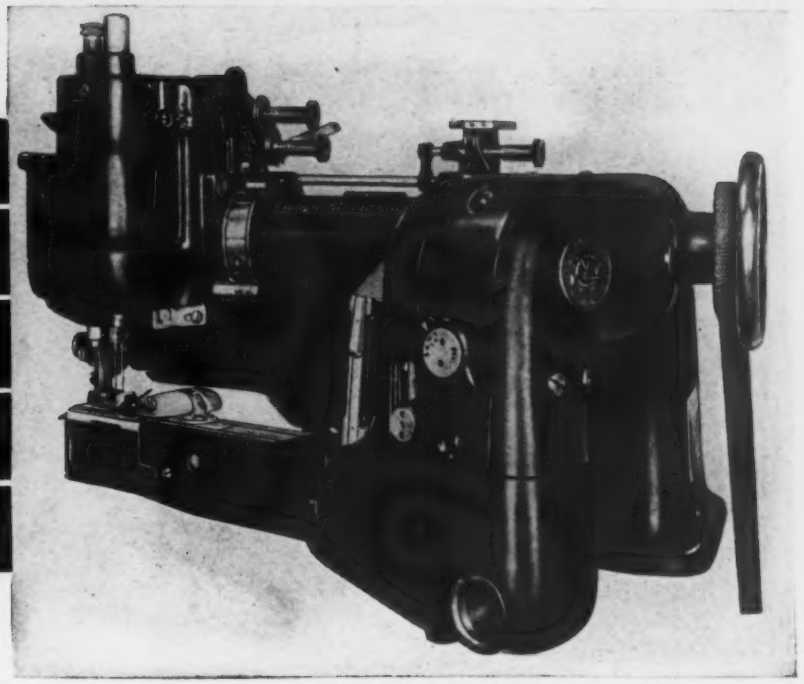
As a general rule in fabric finishing, 2% styrene resin or 3% alkyd resin produces a hand equivalent to 5% pearl cornstarch.

Both the styrene and alkyd resin types have given some indications of suitability as warp sizings. The styrene type shows particular promise and appears to have an advantage over starch in not being affected by humidity.

SYNTHETIC DETERGENTS. The wool-textile industry is now faced with the serious problem of selecting suitable alternatives to replace soap which is not only scarce but has risen in price to a high level, the Northern New England Section claimed in its contest paper. For the past ten years, the American chemical industry has made remarkable progress in the production of synthetic detergents. Many of these are synthesized from intermediates made from plentiful natural resources of natural gas, petroleum, and coal. Accordingly, at present prices, they exist as suitable alternatives for the conventional fatty acid soaps if they can be properly evaluated from an economy and quality standpoint when compared to soap.

Synthetic detergents to compare with soap were selected from three chemical types—from the anionic type, sodium salt of an alkyl aryl sulphonate; from the cationic type, a polyethylene ether of a fatty amine; from

New Features For Better Performance



While avoiding any deviation from the tried and true fundamentals that have established the "Feldlock" as the ultimate in standard of quality and performance, many new features have been incorporated to provide better production—higher operating speeds—longer life to parts—and greater all-around efficiency.

These New Features Include:—

LUBRICATING SYSTEM:
Completely automatic; a trouble-free internal force-feed system requiring no attention on the part of the operator.

FILTERED OIL:
All oil must pass through an efficient filter before it is circulated and re-circulated through the machine.

SINGLE SOLID BASE:
Provides better facilities for disposing of work after sewing—greater comfort and efficiency for operators.

REMOVABLE END CAP:
Conveniently located at the forward end of the Work Arm, assures complete and instant removal of lint and filler.

WORK ARM:
Lower surface is cast in a "V" shape for added strength and to provide a channel for free flow of oil to the auxiliary reservoir.

FEED DIAL PLATE:
Provides greater accessibility to the mechanism within the Machine Frame.

NEEDLE BAR LEVER:
Made of light weight steel forging providing a greater safety factor against extreme shock loads imposed upon the Lever when sewing heavy fabrics at high speed.

ACCESSIBILITY:
No gaskets or other sealing compounds are used in the machine. All covers are placed at key points to facilitate their removal for cleaning or for effecting any necessary adjustments.

PRECISION MANUFACTURE:
Quality workmanship and high standards of interchangeability provide the uniform production which is so vital to garment manufacture.

Send for Illustrated Bulletin Number 896

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214 West 39th Street, New York, N. Y.

• Save Money, Floors, Equipment and Time by using DARNELL Casters and Wheels . . . Always dependable.
An EXTRA MEASURE of QUALITY
DARNELL CORP. LTD. LONG BEACH 4, CALIFORNIA
60 WALKER ST., NEW YORK 13, N Y
36 N. CLINTON, CHICAGO 6, ILL

the nonionic, a polymerized organic alcohol with ether linkages. The soap against which these were compared was a red-oil soap of 95% soap content and 10° titer. These various detergents were compared both without scouring assistant and also with the following: sodium sulphate, sodium carbonate, sodium bicarbonate, and sulphuric acid.

It was found that the addition of sodium carbonate to the detergents is striking. For example, changing the amount from about 2% to 22% has a great effect upon soap. Addition of sodium bicarbonate has an effect on all the detergents similar to that of sodium carbonate; and sodium sulphate has considerable effect, better than when the detergents alone were used.

Occasion does arise in mill practice for scouring sulphuric-acid-carbonized cloth without prior removal of the acid. Apparently the nonionic detergent gives the best results as to oil removal, although the decreasing properties are low. There is a definite relation between a limiting concentration of detergent used and the efficiency of the scouring. For each detergent, there is a critical value between 5 and 10% which produces the best over-all results.

A general conclusion would be that 10% of each detergent with 6% of sodium carbonate to give an initial pH of about 11.0 produces excellent over-all results in oil and lampblack removal.

VAT-ACID DYEING. Since both rayon production and vat-color production have increased enormously, the Piedmont Section studied and, in its intersectional contest paper, reported on the Kupensaure, or vat-acid, method of dyeing to point out how textile colorists may make use of this process in the application of vat colors to synthetic and natural fibers. Normally, vat colors are applied on the alkaline side.

The pressing reason for the need of new developments is the desire to dye staple or spun rayon with vat colors. It has been known that the "vat acids", which means the free leuco compounds obtained during the neutralization of vat colors by the substitution of hydrogen for sodium, may be isolated in a form relatively stable to oxidation. Furthermore, it has been proved that the vat acids in contrast to the sodium-leuco compounds, or generally speaking, alkali-leuco compounds, have little or only a small affinity for cotton and regenerated celluloses. Their particle size is also much smaller than the usual pigment dispersions, the majority of the vat

Take your choice:

FOR SCOURING AND DYEING RAYON KNIT GOODS

Some rayon processors prefer soaps for scouring and dyeing knit goods. With others the choice is synthetic detergents. Whatever your own preference may be, you can count on excellent performance with either Olate or Orvus. If you have never used these time-tested products, a comparison of their special characteristics may be helpful in determining which will best suit your needs.

PROCTER & GAMBLE

*Orvus is available in paste or granule form. Discuss your Orvus needs with your Procter & Gamble salesman.

Olate — *A pure, neutral soap of exceptionally low titer and gentle cleansing action.*

- *Fast dissolving.*
- *Excellent cleansing, lubricating, and wetting out properties.*
- *Free rinsing.*
- *Provides unusual safeguards against uneven shrinkage, streaks, dye blotches and chafe marks.*
- *Resistant to oxidation, rancidity and odor development.*

ORVUS* — *A time-tested, uniform, neutral, safe synthetic detergent.*

- *Ready solubility.*
- *Orvus scouring assures even dyeing and uniform bleaching.*
- *Rinses thoroughly and quickly.*
- *No danger of streaks, specks and spots from hard water soap deposits.*
- *Orvus-processed rayon fabrics are clean, have a desirable odor, and a full hand.*

LARGE STOCKS of TUBING

for Prompt Delivery

Ryerson stocks include low carbon, cold drawn, seamless mechanical tubing, both regular and pump cylinder finish, and high carbon tubing, all in a wide range of sizes. Seamless and electric welded boiler tubes, and Allegheny Stainless tubing and pipe are also on hand. Drawing on these diversified stocks will save money because close Ryerson quality control assures tubular products that meet exacting requirements of analysis, size and finish. For all tubing requirements phone, wire or write the nearest Ryerson plant.

JOSEPH T. RYERSON & SON, INC., Steel-Service Plants at: Chicago, Milwaukee, Detroit, St. Louis, Cincinnati, Cleveland, Pittsburgh, Philadelphia, Buffalo, New York, Boston, Los Angeles.

OTHER PRODUCTS:

Bars	Tool Steel
Structurals	Safety Floor Plate
Plates	Reinforcing Bars
Sheets	Bolts
Allegheny Stainless	Rivets
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Metal Working Tools & Machinery, etc

RYERSON STEEL

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Steel & Stainless Steel Tanks
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acids being almost colloidal in nature. When they are applied to yarns or piece goods in this form and converted again to the sodium leuco, it is said the time of fixation or dyeing can be drastically decreased.

SAPONIFICATION. Although the saponification of acetate rayon is simple, the South Central Section reported in its contest paper that there are many variables which affect the speed and extent of the reaction with a resultant effect on the dyeing properties and fabric properties of the finished goods. Tests demonstrated the great rapidity with which the saponification reaction takes place at temperatures ranging from 49 to 83° C. with an excess of alkali present. Most commercial processes attempt to saponify the cellulose acetate approximately 10%. At 83° C. and at 72° C., this point is passed in less than one minute, which means that any process employing an excess of alkali and high temperatures would be very difficult to control.

A series of tests showed that with a fairly high concentration of caustic there is little effect on the acetate at temperatures below 59° C., but at higher temperatures the reaction begins almost at once.

The percent saponification obtained when using 10% caustic soda on the weight of the cellulose acetate at different times and temperatures is shown as follows:

Temp.	2 Min.	5 Min.	10 Min.	20 Min.
49° C.	0.0	0.0	0.0	2.9
59° C.	0.0	0.0	0.0	7.1
72° C.	1.4	1.7	8.4	11.2
83° C.	....	2.4	8.8	16.4

Further tests have shown that it is entirely unnecessary to carry saponification to extremes. It was found that if cellulose acetate rayon is saponified to an acetyl value of approximately 37 to 38%, the same shade with Cotton Blue FF will be obtained as with viscose rayon. The acetyl values are average values for the whole cross-section of the fiber and do not represent the acetyl content of the saponified outer layer.

Still further tests have shown that a number of alkalies other than caustic soda can be used and that the resultant saponification depends on the nature of the alkali and not on the pH of the solution. Agents which give a preponderance of surface saponification are caustic soda, soda ash, trisodium phosphate, triethanolamine. On the other hand, ammonia under pressure, and ethylene diamine give a diffuse type of saponification. It is believed that saponification by these and other agents can be controlled to any desired degree by the proper at-

Better Rayon with These Hooker Chemicals

Chemists who have worked to improve rayon production have learned that they can depend upon the high quality of Hooker Caustic Soda. Because of its continued dependability, Hooker Caustic Soda has retained its popularity in the Rayon Industry over the years.

These same high standards are upheld in all Hooker Chemicals. The ever increasing use of Hooker Rayon Chemicals testifies to the confidence users have learned they can place in Hooker products.

Here are five of the Hooker Chemicals that are helping in the manufacture of viscose rayon. The consistent high purity of these Hooker Chemicals lightens your work and enables you to turn out uniformly high quality products.

PRODUCT	*DESCRIPTION*	*USE*
Caustic Soda	Specially refined for Rayon Industry. Impurities carefully controlled. In solutions of 50% and 73% concentration.	Mercerizing pulp to form alkali cellulose having *reproduceable solution viscosity.*
Liquid Chlorine	Light orange liquid or greenish yellow gas of uniform high quality.	Treating process water. Preparation of hypochlorite bleaching solutions.
Lauryl Pyridinium Chloride	A mottled tan semi-solid. Solubility in water is 60 gms per 100 gms of water.	As a cationic detergent to keep spinerettes* clean. Wetting and cleaning agent for textile fibers. As a leveling agent and color modifier in dyeing.
Sodium Sulfide	A light yellow colored solid relatively free from iron and other heavy metal salts.	In desulfurizing rayon yarn. Manufacture of dyes.
Sodium Sulfhydrate	A light yellow colored solid of high purity and negligible metal content.	For preparation of desulfurizing bath. Manufacture of dyes.

Data sheets and samples of Hooker chemicals will be sent when requested on your letterhead. Send also for Hooker General Products List which contains information on nearly one hundred Hooker chemicals, many of which have a wide application in the textile field.

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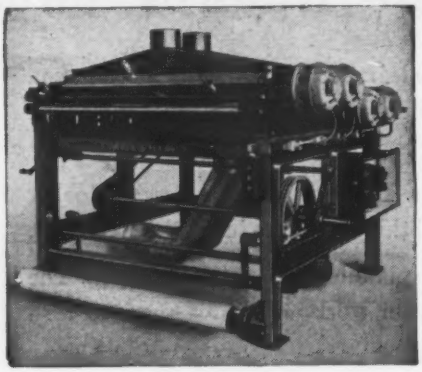

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MACHINE COMPANY
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Made to the most exacting requirements of wool, cotton and rayon textile mills by the "OLD FAITHFUL" crayon specialists who have led their field for more than a century.
"Empire" is made in 18 clearly distinguishable colors. Large and small sticks as illustrated above.
Write Dept. T-3 for FREE Chart Showing actual colors
THE AMERICAN CRAYON COMPANY
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tention to time, concentration, temperature, and the nature of the saponifying agent.

MINERALS IN COTTON. The mineral content of some cotton is capable of producing uneven dyeings when yarn spun from such cotton is dyed on dye beams with vat dyestuffs, the Southeastern Section declared in its contest paper. But boiling out the yarn with acetic acid removes much of the mineral matter and permits even dyeing to be obtained. The mineral content may be a factor worth considering in dyeing cotton in all types of equipment.

Since the rate of flow in either beam or package dyeing is a major factor in producing level dyeings with the relatively rapid-exhausting vat dyes, it is essential in beam dyeing that this rate be maintained at the maximum the yarn will withstand without channeling. Any condition which reduces or retards this rate of flow will tend to produce uneven dyeings. After dyeing, the outside and inside windings from the beams were invariably dyed a darker shade than the middle windings.

The variation in dyeing was believed to be due to calcium and magnesium actually coming from the yarn, and it was believed that removal of this material in the preliminary boil-out of the yarn should correct the trouble. Dilute acetic acid was found to convert the calcium and magnesium salts to the soluble acetate form which could easily be washed out of the yarn. Accordingly, some yarn was given a boil-out with dilute acetic acid at 180° F.

Chemical analysis of the water prior to boiling out the yarn, after boiling out with a penetrant, and after boiling out with acetic acid showed that the acetic acid treatment removed considerably more mineral matter from the yarn than did the regular boil-out with a penetrant. It is also an actual fact that the beams boiled out with the acetic acid no longer showed the dirty deposit on the yarn after dyeing.

WOOL MODIFICATION. "The unusual properties of wool can be explained on the basis of a structure consisting of long, flexible polypeptide chains held together at periodic intervals by the disulphide cross links of the amino acid, cystine," said Dr. Milton Harris, of Milton Harris Associates addressing the technical session of the convention.

Treatments can be given wool prior to reuse which will assist it to withstand stripping and to improve its chemical resistance, he said. Such treatments formerly cost $1.50 a

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CALCOFAST wool dyes produce consistently level, uniform shades with excellent fastness properties. Their qualities of good penetration and superior fastness to light, washing, sea water, perspiration, carbonizing, and fulling, make them particularly desirable in fashionable shades for sportswear fabrics, suitings, neckwear, knitting yarns for sweaters or bathing suits, and hosiery yarns.
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pound and were impracticable, but now might cost as little as 3¢ using different chemicals.

Frederic L. Goodall, of Geigy Colour Co., Ltd., declared that the customary dyeing procedure for wool should be changed in three respects: (1) enter the goods as near the boiling point as possible, (2) use no Glauber salt, and (3) reduce the acid content of the bath.

In practice, he said, the simplest and best method is to raise the dyebath to the boil for entering, and enter the goods with the steam shut off. Some time should be allowed for circulation without steam to insure uniform contact between dye solution and goods. Owing to the entry of cold goods and loss of heat during this period, the temperature in practice may fall to 185° F., from which it is then raised to the boil in 30 min.; and dyeing then carried on as usual.

SYNTHETICS. Valuable synthetic fibers must represent a combination of desirable properties, said Herman F. Mark, of the Polytechnic Institute of Brooklyn. The most important of these properties are: high tenacity; high modulus; high elongation to break; resiliency; high softening point; resistence against chemicals, solvents, oxygen, and light. It is not possible to combine all these properties in one fiber, but one can succeed in establishing a favorable balance of some of them. He pointed out that there is one requirement which is important for any of these combinations, and this is a sufficiently high molecular weight of the material used for the spinning of the fiber. In addition to this, there seem to be three principles which permit the arrival at valuable combinations of fiber properties: crystallization, copolymerization, and crosslinking.

John H. Dillon, of the Textile Research Institute and the Textile Foundation, rated the properties of cotton, rayon, nylon, Fiberglas, and wire for use in tire cord. He indicated that Fiberglas and brass-coated steel wire have more of the properties desired in tire cords but that other factors have, so far, prevented their widespread use.

TREATING COTTON. The term "fireproof," when used with reference to cellulose fabrics, is a misnomer, said Sidney Coppick, of American Viscose Corp. It implies that adequately treated material would be unaffected by heat sources of high intensity. This is, of course, not so; but some treatments may render cellulosic fabrics more resistant to fire.

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HILD Floor Machines are designed for use with the easily interchangeable attachments pictured below to condition and maintain floors of all kinds . . . either in the mill or in office areas. Scrubbing with the Tank-Type Machine and the patented HILD Shower-feed Brush gets floors cleaner with less scrub-soap solution . . . cuts soap costs . . . does not splash water on machinery or furniture. Scrub-soap solution is fed from the tank on the handle of the HILD Floor Machine to the back of the Shower-feed Brush . . . then passes through accurately spaced holes **penetrating the brush back between each row of bristles.**

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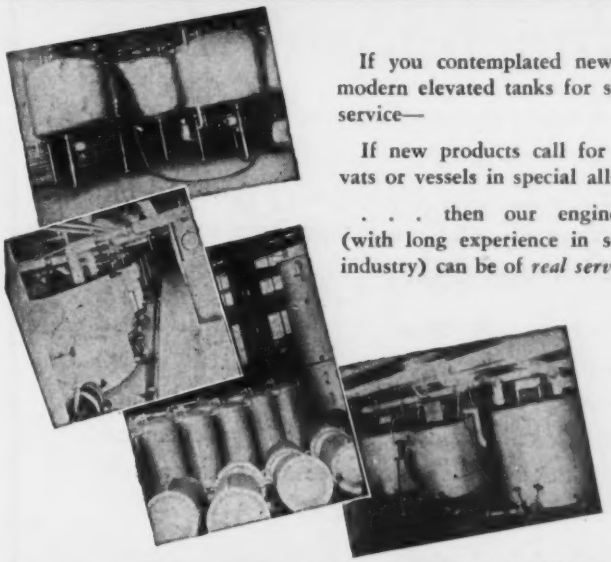

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. . . then our engineering department, (with long experience in servicing the textile industry) can be of *real service* to you.

Submit us your problems, or write for a copy of "Tank Talk."

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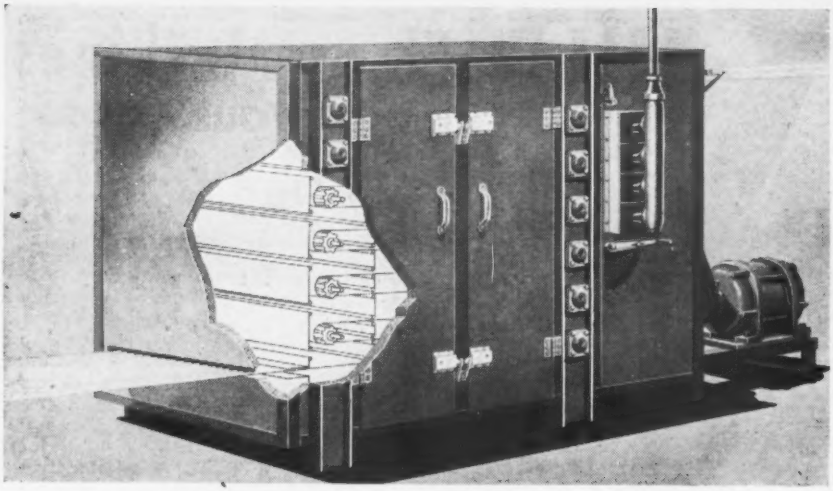

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Announcement

The Charles P. Boyd Corporation has purchased from the Fidelity Machine Company Inc., all drawings, parts and rights to manufacture high quality spoolers and winders including all textile machines formerly made by Jacob K. Altemus.

These machines include bench type and multi head spoolers, skein to bottle bobbin winders, backwinders for pirns to cones for 15 denier yarns as well as many other types of textile winders. With our excellent equipment and adequate capacity we are prepared to give reasonable delivery schedules.

Write for literature.

Charles P. Boyd Corp.
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which may be added to fabrics are certain water-soluble salts, he said, but a greater degree of permanence is imparted when metallic hydroxides are precipitated within the fabric or fiber structure. The best protection appears to result from the hydrated oxides of tungsten and tin co-precipitated by use of sodium tungstate in the first and stannic chloride in the second bath. Increased glow resistance may be obtained by incorporating sodium phosphate in the first bath, but in general neither the flame nor glow protection is retained after a number of launderings unless the fire resistant treatment is followed by a resin coating to bind further the constituents into the fabric structure.

When zinc chloride and borax are dissolved together in an organic solvent such as ethylene glycol, no precipitation occurs. The fabric is impregnated with this solution and finally passed into water, whereupon precipitation of a relatively insoluble basic zinc borate occurs.

Another application of the permanent type is the pigment process, wherein a metallic oxide and a chlorinated body are padded directly on the fabric.

R.G.H. Siu, of the Quartermaster Corps Laboratories in Philadelphia, told of the fundamental aspects of the prevention of microbiological degradation of cotton textiles. In the case of both fungus and bacterial attack, he said, the cellulose seems to be degraded only at the point of immediate contact of the organism with the fiber. There is little or no action at a distance away from this point of contact. This fact offers a premise on which to develop a microbiologically resistant fabric; viz, an interruption of the direct contact between the micro-organisms and the fiber by a physical barrier. This can be accomplished by means of resin impregnation.

A second method to prevent the action of micro-organisms on cloth is to use cell toxicants.

Fundamental research and small-scale development work indicated that the method of the chemical modification of the cellulose molecules on the surface of the fiber has considerable possibilities, he concluded; and this great promise should be tracked down.

Pencil Stripe Worsted

(*Continued from page 137*)

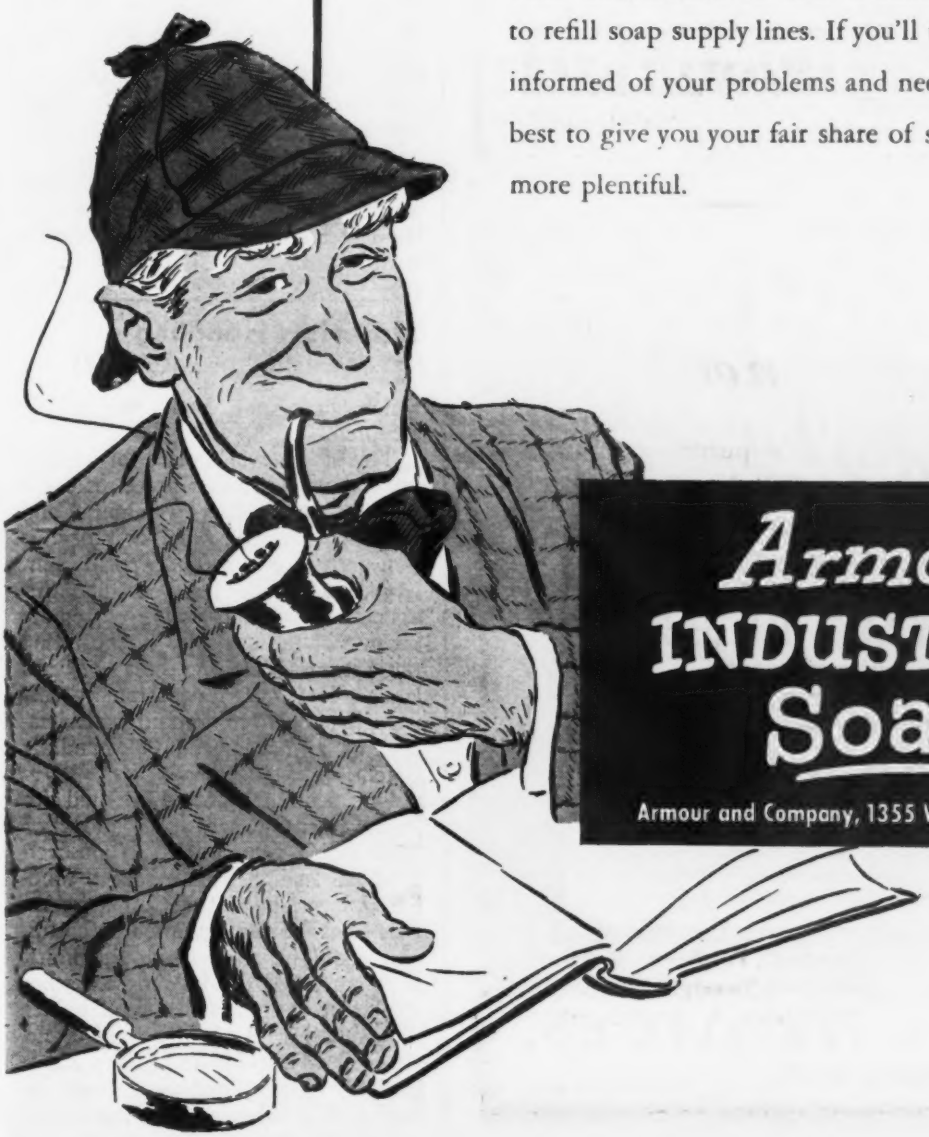
With 53 ends in each pattern and 72 patterns, there is a total of 3,816 ends in the warp. There are 13 dents per pattern and 72 patterns, which results in 936 dents in the reed. Assume the loom width to be 68 in. To get

An Adventure of the Armour SOAP Sleuth

THE CASE OF THE DISAPPEARING SHORTAGES!

Things are looking better . . . soap is coming back! There's still not as much as we all would like, but with the lifting of Government restrictions, the future is brighter.

Your cooperation is still needed . . . it takes time to refill soap supply lines. If you'll try to keep Armour informed of your problems and needs, we will do our best to give you your fair share of soap as it becomes more plentiful.



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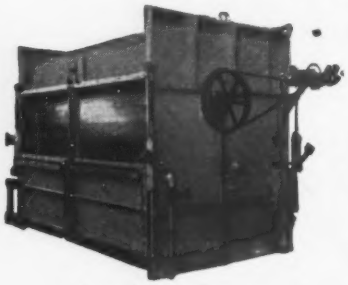
The Type TLBT is the greatest advance in piece dye kettle design in 15 years for the following reasons:—



1. Nearest thing to universal kettle ever offered.
2. No tangles or tie-ups.
3. Goods bolloon, eliminating wrinkles, creases, and dye streaks.
4. Knurled drum reel eliminates all slip.
5. 10% or more saving in dyestuffs.

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START RIGHT

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This will give the Travelers a chance to show what they can do.

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STERLING RING TRAVELER CO.
FALL RIVER, MASS.

the reed size, divide the total number of dents in the warp by the width wanted; or divide 936 by 68, which is approximately 13.75. To find exact width, now divide the total dents by the reed size; or divide 936 by 13.75, giving 68.1 in., which is satisfactory.

DRAW. This is a four-harness weave and, theoretically, could be woven on four harnesses; but because of the number of ends in the warp, most mills would use eight harnesses. In planning the draw, it must be remembered that harness No. 5 will work like harness No. 1, harness No. 6 like harness No. 2, etc.; so the draw should run smoothly and evenly to the right.

There are various methods, other than that shown in Fig. 2, *A*, for laying out pencil stripes. Fig. 2, *C*, shows one end of silk running up on the ground twill with the other end cut clean. This gives a good effect and probably will weave better than that shown in Fig. 2, *A*.

Fig. 2, *D*, shows the first end of silk dropping back on the ground twill and the second cutting clean. This too gives a good effect and weaves well.

Fig. 2, *E*, shows the first end of silk on the ground twill, then a cut-off, and the second silk on the ground twill. This is probably the easiest to weave; but, naturally, as the silk ends are more hidden than in the others, the effect is not so clean, although it is still good.

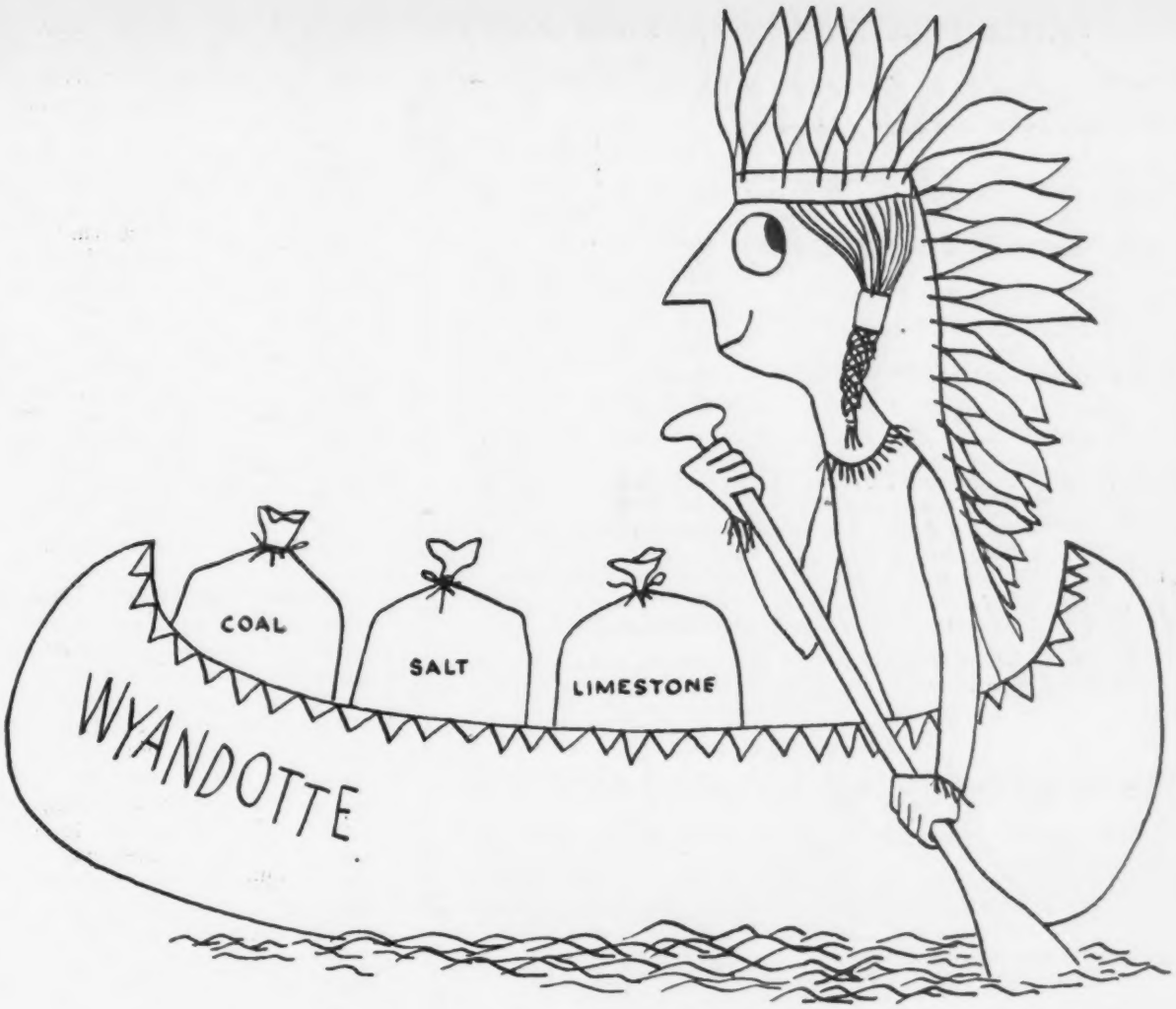
Materials Handling

(*Continued from page 133*)

which have not been too widely accepted.

The most obvious place for improving transport between processes exists between the cotton warehouse and the opener room. The cost of this transporting was $493.00 per 120-hr. week, and it is believed that this figure may be higher than customary because of the difficulty in separating the various tasks and costs of yard labor. However, the customary cost is high enough to warrant consideration of a mechanized bale-handling system.

One semi-mechanized method for improvement utilizes a self-propelled hoist which is mounted on an overhead rail leading from a central warehouse location to the opener room. Bale hooks of the type used by cotton gins could be attached to the hoist, or a special bale holder somewhat similar in design to the cloth holder shown in Fig. 3 could be made and attached to the hoist. Either handtrucks or power equipment could be used to feed bales from the warehouse



Bringing home the makings

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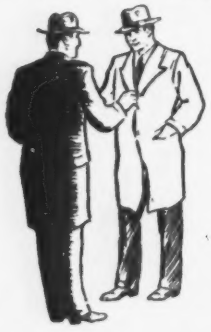

Drummond Flakes are so easy to use! And you couldn't get a flake that suds better! Note these Drummond Soap features: high body with low alkali content . . . leaves fabrics perfectly clean with softer feel, brighter colors, and whiter whites. Try Drummond Flakes and note the difference in your fabrics. Ask for Drummond Flakes or Solid.

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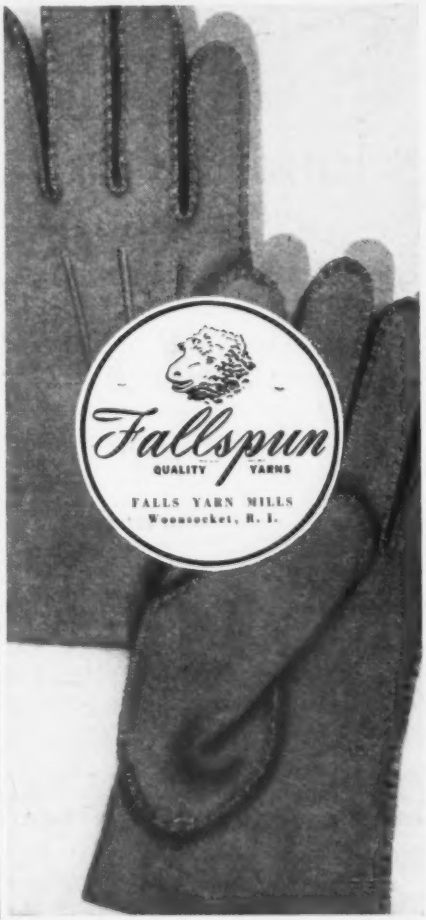


stacks to the conveyor line. The number of operators would be reduced to those necessary for feeding the conveyor line and for removing and opening the bales.

Consideration should be given to locating the scales and other cotton-receiving equipment at some point on the conveyor, since the handling cost of the bale is almost as high at the receiving department as between the warehouse and opener room.

In connection with the gin-type hooks suggested as a holder for cotton bales, it can be said that rail-mounted, mechanized hoists may be used for many packages and purposes simply by changing the holding tool. Thus, if costs permit mechanization, the second step is to devise or obtain a suitable holder for the package.

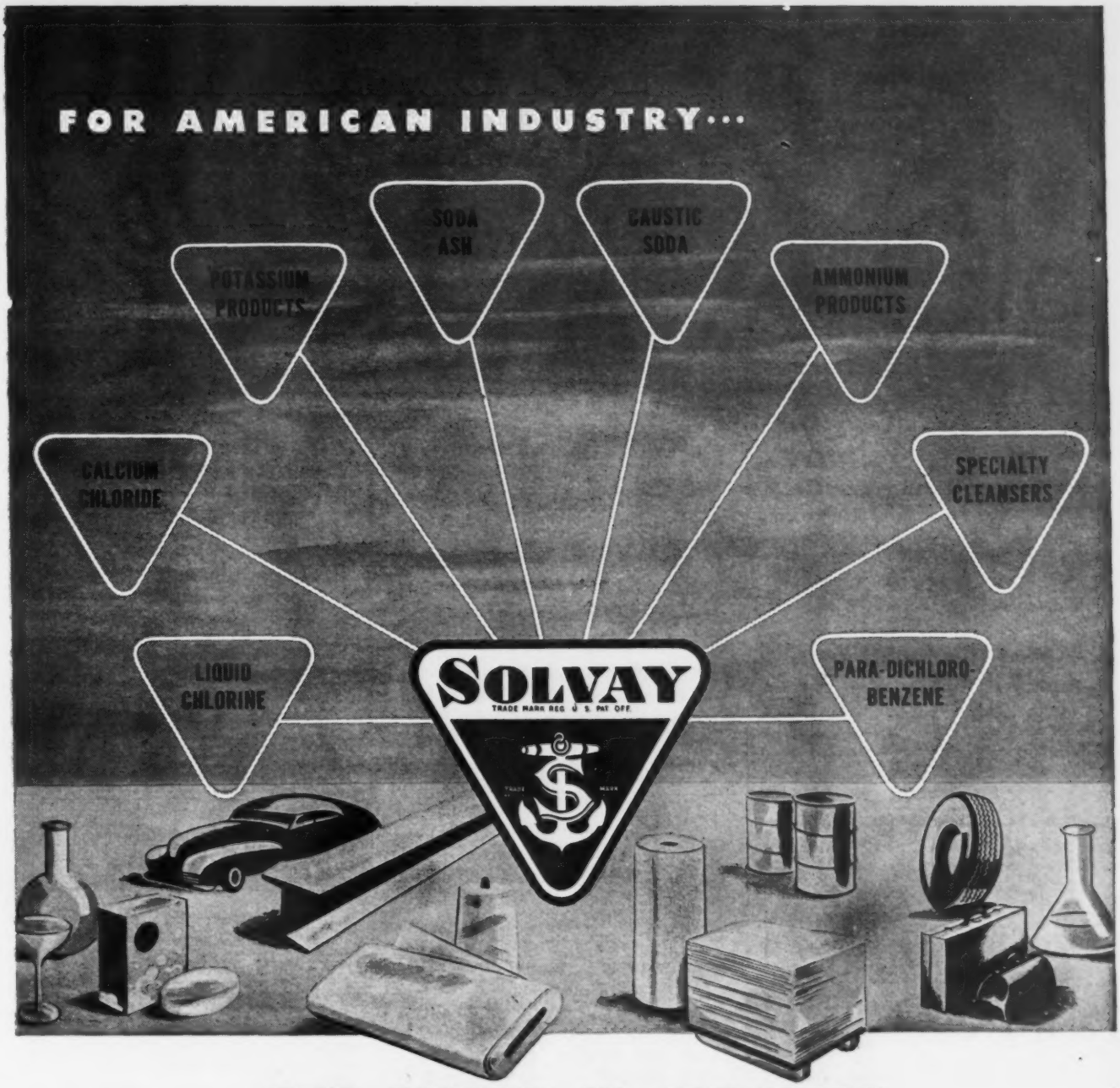
SPINNING TO WEAVING. There are opportunities for improvement in handling between the spinning room and weave room. If the spinning is located on a floor above the weaving, the simplest device for transporting filling yarns might be a drop-delivery chute of hardwood. Such installations in several large mills are arranged to permit spinning doffers to dump directly into the chutes, which convey the filling to storage bins in the weave rooms. The cost figure of $380.00 per 120-hr. week should enable the mill to use such a chute, or other method, economically.

Included in the general filling cost of $380.00 per week is a variable amount which is spent for hauling empty quills back from weaving to spinning. This cost has been partly offset in mills which have installed belt-conveyors. The conveyor attaches to the quill-cleaning machinery and returns empty quills automatically to a bin in the spinning room.

Combining the drop-delivery chute and a return belt-conveyor, the mill would have a complete materials-handling system for filling.

ELIMINATE DUMPING. Wherever possible, materials-handling engineers attempt to eliminate the costly and fatiguing job of dumping, whether the package is in the form of roving, warp yarn, or cloth.

Doff boxes of warp yarn may be slid onto a yarn truck instead of dumped into the conventional yarn box. The truck is then moved to the spooler room where another and more costly dumping operation may be avoided if the boxes are fed directly to the spoolers. One mill accomplishes this method of feeding by removing spooler troughs and substituting a suitable rack for spinning doff boxes.



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Textile Research

(*Continued from page 135*)

textile industry spent nearly $16,000,000 on research in 1946, compared with less than $8,000,000 in 1940.

Despite the rapid strides made in recent years by the textile industry and its great importance as a supplier of one of man's three basic necessities, it is still far behind most other industries in the size and scope of its research effort. Name almost any other class of goods—food, automobiles, metals, plastics—and it will be found to be the beneficiary of more research work than textiles.

The total of 3,175 textile research workers is only 2.4% of the aggregate of 133,515 for American industry. A pre-war survey indicated that the textile industry spent only 6¢ on research for every $100 it added to the value of goods in the process of manufacture. Industry as a whole spent 64¢ per $100 value added by manufacture.

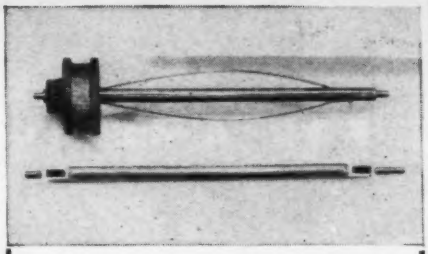
Moreover, research work is not evenly distributed throughout the textile industry, but is largely concentrated in certain divisions and companies, particularly those chemical concerns which produce rayon and other man-made fibers.

RAYON LEADS. Far more research effort has been expended on rayon than on cotton, wool, silk, or other natural fibers. The number of companies doing research work on rayon is 30, compared with 27 for cotton, 22 for wool, and 4 for silk. The disproportionately small share of research work on cotton is evident when we consider that its volume of consumption is five or six times that of rayon.

A comparison of the number of laboratory personnel working on the leading fibers shows similar results. Total laboratory personnel for rayon is 1,280, compared with 536 for cotton, and 233 for wool. Of these, the number of professionally trained workers is 538 for rayon, 226 for cotton, and 79 for wool.

The steady rise in consumption of rayon during the past 35 years, until it has reached the point where it is second only to cotton, is a reflection of the fact that more research effort has been expended on rayon than on any other fiber. Rayon's marked improvement in quality and reduction in price over a period of years would have been impossible without continued and intensive research.

What has been accomplished with rayon may well be repeated in the cases of some of the newer man-made fibers which have been introduced during the past ten years, or are now under development. Nylon, Vinyon, Velon, Saran, Fiberglas, and Aralac are all



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Wayne Spindles, with patented, renewable, tool-steel tips cost little more than solid end spindles. Worn tips can be quickly replaced for a few cents, and spindles are then good as new. Send for sample—see how to save time and money.

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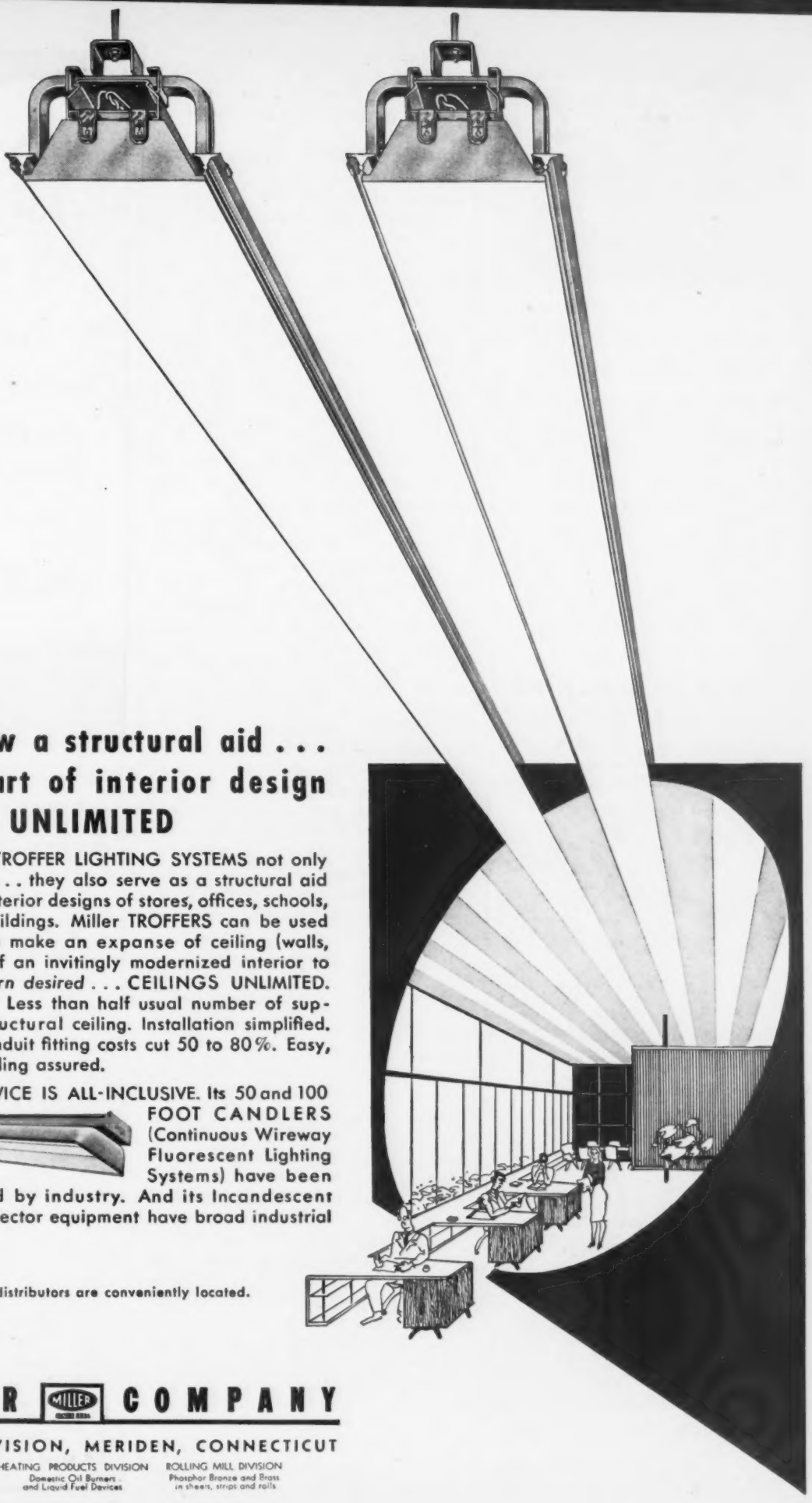

Lighting is now a structural aid . . . an integral part of interior design . . . CEILINGS UNLIMITED

MILLER FLUORESCENT TROFFER LIGHTING SYSTEMS not only provide GOOD LIGHT . . . they also serve as a structural aid in the planning of the interior designs of stores, offices, schools, factories and public buildings. Miller TROFFERS can be used as "building blocks" to make an expanse of ceiling (walls, too) an integral part of an invitingly modernized interior to form *any ceiling pattern desired* . . . CEILINGS UNLIMITED. Additional advantages: Less than half usual number of supports needed from structural ceiling. Installation simplified. Wiring, conduit and conduit fitting costs cut 50 to 80%. Easy, accurate leveling of ceiling assured.

MILLER LIGHTING SERVICE IS ALL-INCLUSIVE. Its 50 and 100 FOOT CANDLERS (Continuous Wireway Fluorescent Lighting Systems) have been established as standard by industry. And its Incandescent and Mercury Vapor reflector equipment have broad industrial application.

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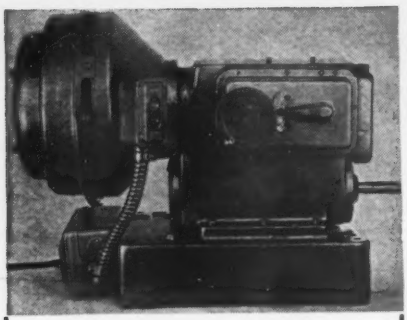

Model HT2 Hydraulic Transmission

VELVET SMOOTH VARIABLE SPEED

Here is the way you can obtain dependable infinitely variable speed—from zero to full drive-motor speed in either direction. HT2 Hydraulic Transmissions provide constant torque and high efficiency over the entire range — allow rapid changes — eliminate clutches. Available in 2, 3, & 5 hp. sizes, with motors of 1140 or 1725 rpm.

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DRAPER *Dependable* **SOAPS**

For more than 85 years, DRAPER has been providing better soaps for better fabrics.

The Textile Industries long have known that "Depend on DRAPER" has real significance, for the users of DRAPER Dependable SOAPS are producing better cloth.

Write for a demonstration of DRAPER SOAP *quality*.

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DIVISION OF CONTI PRODUCTS CORP.

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sponsored by large corporations noted for their progressive research policies; and all of them have shown rapid growth since they were introduced.

OTHER SYNTHETICS. Although aggregate consumption of these new fibers is less than 1% of total fiber consumption in the United States, the research staffs working on some of them are comparable in size with the total number of research workers for cotton or wool. For example, Owens-Corning Fiberglas Corp. has at its Newark, Ohio, laboratory a total of 625 personnel, of whom 118 have had professional training. This company alone has more research workers than the entire wool division of the industry in the United States.

The Du Pont company has at its Nylon Research Laboratory in Wilmington, Del., total personnel of 138, including 23 chemists and 4 engineers. In addition, nylon research is carried on in other Du Pont laboratories.

The development of nylon was an offshoot of a program of fundamental research designed to throw further light on certain aspects of polymerization. Nylon was introduced in 1938, and by 1945, it had attained an annual production rate of 24,000,000 lb. In its first seven years on the market, nylon reached a volume of output that it took rayon 11 years to achieve, after its introduction in 1911. As in the case of rayon, the price of nylon has been reduced, and its properties have been improved, adapting it to a widening field of applications. New types such as nylon staple and elastic nylon have been developed.

Glass fiber may be given new possibilities in the textile field as the result of research now under way by Owens-Corning Fiberglas Corp. A non-textile form of glass fiber has been developed as interlining for sports clothing following successful military applications. The adaptation of Fiberglas yarns to clothing fabrics is an objective of the present research program. Recent development of superfine glass fibers, better methods of coating and coloring them, and other improvements, all point this way.

Research work on vinylidene chloride fibers is being carried on by The Dow Chemical Co. (Saran), The Firestone Tire & Rubber Co. (Velon), and others. The monofilaments have proved highly successful in such textile applications as drapery and upholstery fabrics. Recent development of Velon multi-filament yarn by Firestone may open up new markets in wearing apparel.

FIBER A. One of the most promising classes of new fibers is based on acry-

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A clear liquid, Wetsit is completely soluble in water in any proportion. It will not injure the most delicate fabric and can be removed with a minimum of rinsing. Efficient, low in cost, Wetsit is available in various concentrations for different purposes.

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Available In These Concentrations:

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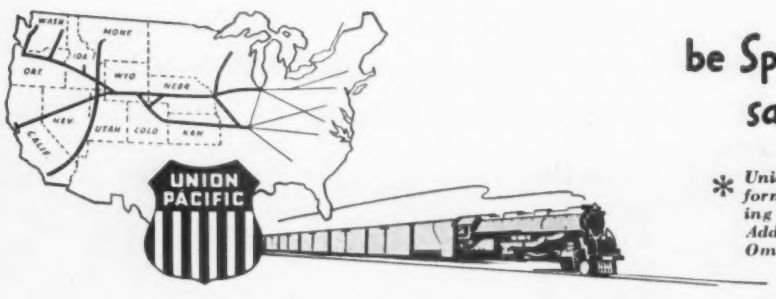
Of special interest to the Textile Industry

Fact 1. Since V-J day, hundreds of industrial and commercial concerns have located factories, warehouses and distribution facilities on the Union Pacific right-of-way in the western states served by the railroad.

Fact 2. This vast territory is rich in raw materials, natural resources, skilled and unskilled workers... with ideal living conditions, good schools, and plenty of space for future expansion.

Fact 3. Travel surveys show vacationists favor the western area by a wide margin. Result—greater interest in the West leading to permanent residence... growing markets, more manpower for industry.

Fact 4. Over its Strategic Middle Route, uniting the East with the West Coast, Union Pacific provides unexcelled rail transportation.



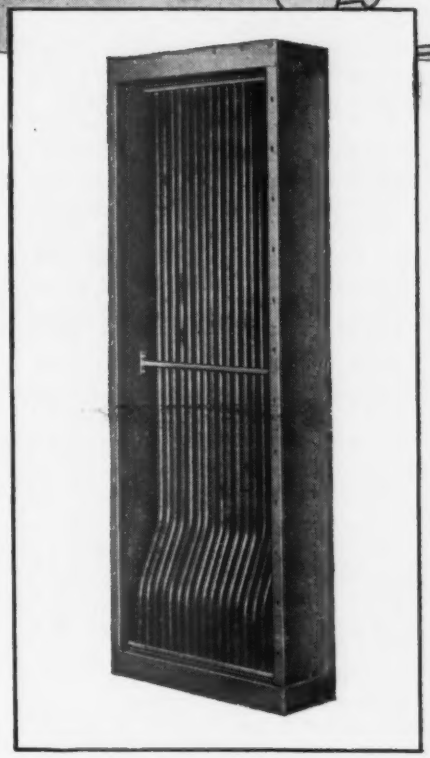
be Specific – say "Union Pacific"

* *Union Pacific will gladly furnish confidential information regarding available industrial sites having trackage facilities in the territory it serves. Address Industrial Dept., Union Pacific Railroad, Omaha 2, Nebraska.*

UNION PACIFIC RAILROAD

The Strategic Middle Route

Before you select ANY COIL



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lonitrile (vinyl cyanide). There are several types — Du Pont's "Fiber A", Carbide & Carbon Chemicals Corp.'s "Vinyon N", and another type developed by General Electric Co. Acrylonitrile fibers are outstanding in their resistance to heat and to chemicals, and have good strength and other properties, which should qualify them for a wide variety of applications. For example, Vinyon N has a higher softening point and improved dyeing properties compared with the regular Vinyon. The new Vinyon may be used in hosiery and many other items of wearing apparel.

Many other distinctly new types of synthetic fibers will emerge from the laboratories and pilot plants in the next few years as the result of work now in progress. Any plastic which can be made into a film can be drawn into a fiber, and the number of possible fiber-forming materials is almost unlimited. Fibers have already been made from polyethylene, polystyrene, polyvinyl alcohol, and many other plastics.

PROTEIN FIBERS. New types of protein fibers may also be expected to follow in the trail blazed by Aralac. Introduced by National Dairy Products Corp. in 1939, Aralac has now attained an annual production rate of around 9,000,000 lb., most of which is used in blends with other fibers.

Soybean protein fiber is similar in many ways to that made from casein. It is under development by The Drackett Co. which plans to go into commercial production in the near future. Ardil, a peanut protein fiber, has been developed by Imperial Chemical Industries, Ltd., of England.

Much research work on fibers, both natural and synthetic, is under way at the four Regional Research Laboratories of the U. S. Department of Agriculture. The Eastern Laboratory, Philadelphia, Pa., is working on casein fiber. The Northern Laboratory, Peoria, Ill., is investigating fibers based on soybean protein, corn protein (zein), and amylose acetate. The Western Laboratory, Albany, Calif., is interested in the possibilities of making fibers from the proteins of chicken feathers, eggs, and wheat. The Southern Laboratory, New Orleans, La., is devoting a major portion of its research effort to cotton and peanut protein fiber.

LABORATORY LOCATIONS. The geographical distribution of laboratories in the United States engaged in textile research is shown in the accompanying map. It will be noted that most of the laboratories are concentrated in the Northeast and that there are relatively few in the South and West. In number of textile research laboratories, New York leads, followed by Pennsylvania, New Jersey, Massachusetts, Connecticut, Illinois, Rhode Island, North Carolina, and Tennessee. None of the other states has more than three textile research laboratories.

The development of new fibers in recent years has served to make the entire textile industry research-conscious and has stepped up the tempo of scientific investigation in connection with cotton, wool, and other natural fibers. Chemical treatments are giving new properties to those fibers which have remained much the same for thousands of years. A host of chemical agents, including the new melamine and silicone resins, are being added to textile technology. Some of them make cotton stronger; others give wool shrink-resistance; while still others impart resistance to fire, water, and microorganisms.

One of the sharpest increases in textile research in recent years has been in the field of chemicals and coatings for textiles. The number of companies listed as engaged in research on "textile chemicals" rose from 6 in 1940 to 36 in 1946; the number doing work on "textile coatings and finishes" increased from 7 in 1940 to 33 in 1946. All the important chemical companies are known to be actively engaged in this development, but much of the work has not yet been publicized.

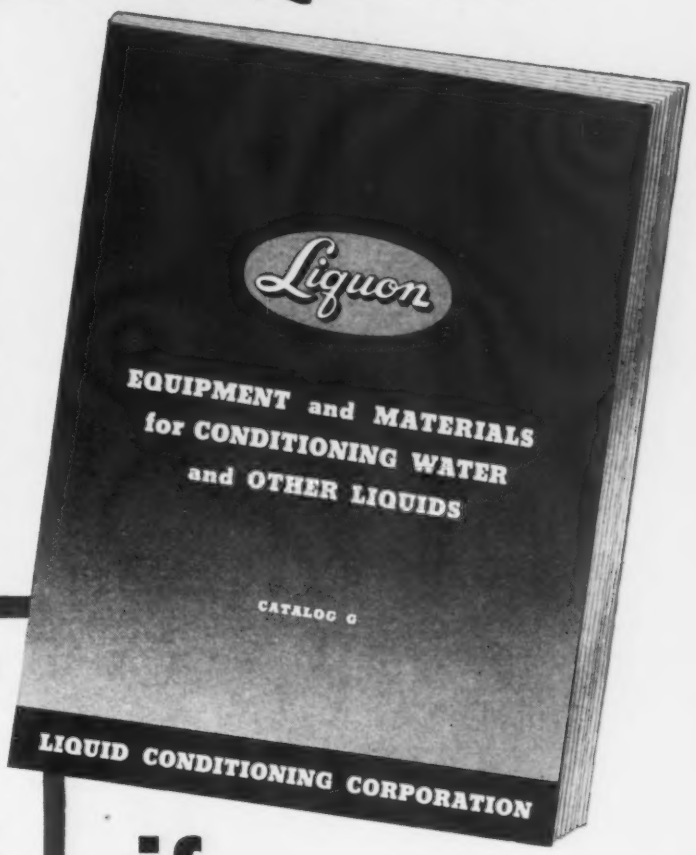
Another field of great promise is that of bonded webs or unwoven fabrics. These are the modern counterparts of felt and are made by several methods whereby an interlaced mass of fibers in a batt are compressed and bonded together into a sheet or fabric. Cotton is the principal fiber used. Thus far, bonded-fiber webs have been utilized only in specialty applications, such as tea bags; but further research may develop types strong enough for wearing apparel, thus eliminating costly spinning and weaving.

In summary, research is working in many directions to give the textile industry new and better materials. New fibers are being developed while the older ones are being improved. There is no such thing as an ideal general-purpose fiber; each has its advantages and its limitations for specific uses. For every fiber, the field of potential applications is greater than that of its established applications; and research men are constantly striving to extend the latter. The greatest gains may be expected for those fibers which are improved the most or reduced the most in price. The battle of natural versus synthetic fibers will be decided in the laboratory; the pattern of future trends in the textile industry will be woven by research.

The Latest Word in the **CONDITIONING** *of* **WATER** *and* **OTHER LIQUIDS**

This helpful guide book on conditioning of water and other liquids has been prepared by leading authorities with more than a quarter century of specialized experience in this field.

It clearly explains and compares the many different processes and describes the most modern and effective methods and equipment for softening and clarifying water, and also for removing undesired impurities or recovering valuable constituents from other liquids. It will help you to determine the most practical conditioning method for your particular requirements, and to check the possibilities for modernizing and improving your present process.



Some of the Subjects Covered

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WHERE should each of the different methods of water treatment be used?

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WHICH is the most effective water treatment for removing hardness . . . alkalinity . . . minerals . . . turbidity . . . gases . . . other impurities?

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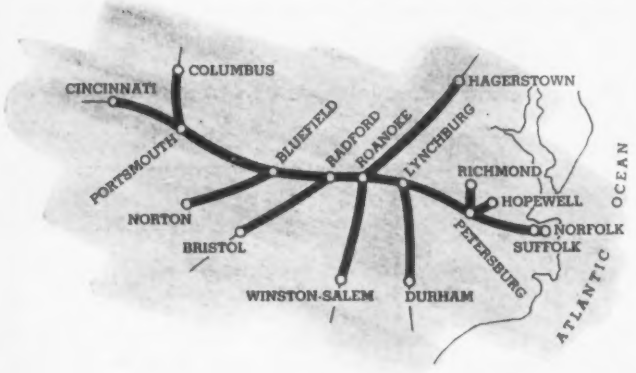

Regardless of how good a plant may look on the board, it must have the right location to operate efficiently and grow. The railway's Industrial and Agricultural Department at Roanoke, Virginia, has complete information on good textile plant sites in Norfolk and Western territory. Write or phone for this confidential data today.

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FOR BETTER PLANT LOCATIONS

Improvements are born here

Many textile manufacturers have been able to improve their product or process with the help of our textile laboratory at Greenville, S. C. Our experienced technicians are always happy to be of service on textile problems.

CORN PRODUCTS SALES COMPANY

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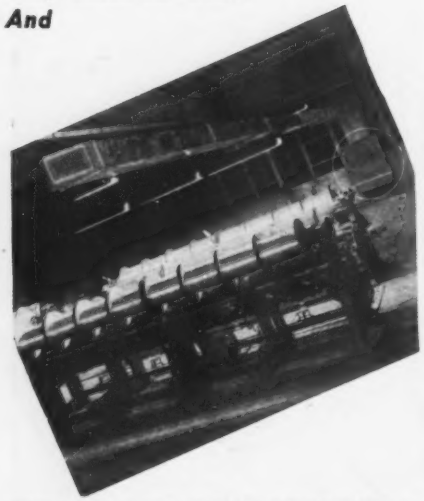
(dry humidification)
And



TRICOT MACHINES

A "Production Team"

Today's high speed Tricot knitter is a precision machine. Tolerances are close. Even, controlled humidity, without free moisture, is highly important 24 hours a day, 7 days a week whether the machines are active or idle. The yarn must retain its moisture whether it is being warped, knitted, or is in storage to be used later on.

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"Dry humidification" is being installed by leading manufacturers of tricot knit fabrics, because—

With the stainless steel Air-Perme-Ator moisture 500 times finer than the finest spray is distributed evenly throughout the plant. Consequently there is no free moisture to rust the needles or the delicate machines. Constant relative humidity is maintained, materially reducing broken ends, dropped stitches, and seconds. Static is eliminated and yarns are always conditioned for trouble-free processing.

Write for your free copy of our handsomely illustrated booklet "Air-Perme-Ator and Tricot Machines—A Production Team."

AIR-PERME-ATOR MFG. CO.

300 Preakness Ave. Paterson 2, N. J.

High-Temperature Water

(*Continued from page 129*)

stated. Consequently, all heat-exchanging surfaces remain free from scale and rust, thereby improving considerably the rate of heat transfer. The mean boiler-water temperature is lowered by using the boiler for high-temperature-water heating. This fact, as well as the fact of scale-free boiler surface, increases boiler efficiency. Radiation losses from the piping are said to be smaller. Some water may be lost through loose stuffing boxes; however, according to reports on installations, the amount of make-up water required, if any at all, is negligible. No water purification or make-up water treatment is required.

LOW COST FACTORS. Much maintenance work peculiar to steam systems is practically eliminated. It is therefore unnecessary to carry on the payroll the special maintenance crews required for maintaining steam-heating systems. The elimination of boiler and make-up water treatment, as well as condensate-collecting and boiler-feeding equipment, saves both in operation and maintenance cost. Electric current consumption for pump operation is said to be relatively small because the pump is used merely to overcome the friction resistance of the piping system to effect the required circulation. This current consumption is said to be smaller than the current usually required for boiler-feeding equipment.

Additional economic advantages can be obtained by installing hot-water heat accumulators in the circuit. Wherever the use of such accumulators is indicated (with or without simultaneous power generation), the boilers can be relieved of peak loads. This assures more uniform boiler operation at a point of high efficiency. Fuel savings of 20 to 30% are claimed, and repair and maintenance expenses are much reduced. Such savings often justify the replacement of existing steam systems with high-temperature-water systems.

For indirect high-temperature-water heating, the dyeing, bleaching, soaping equipment, boiling off or scouring tanks and machines are equipped with special coils of nickel or stainless-steel surface resistant to the action of dyes, acids, or caustics. These coils transfer the heat required for processing. By using indirect heating instead of releasing free steam, the quantity of dye liquor remains unchanged, undiluted, and free of rust and other steam-borne impurities. In this way, exact and clean shades can be obtained. The heating-up time can be regulated accurately and a constant maximum dye-float temperature can be maintained. By eliminating the impurities in the dyeing liquor and by exact control of its quantity and temperature, the dyeing process, which often contains much guess and test work, becomes a more exact science, saving time, material, and labor. It is also claimed that for the same work there is a considerable reduction in fuel consumption.

Heating of tenter frames has been a troublesome problem in recent years because higher and higher temperatures are required to cope with the demand for increased speed and output. With high-temperature-water heating, these high temperatures for tenter drying are easily reached and at the same time high efficiency is maintained.

Rotary dyeing machines, as the above, were equipped for indirect heating with high-temperature-fluid system.

Color guard

That's a big advantage you get with Stainless Steel wet-processing equipment. This gleaming, rustless metal in your dye vat guards the brightness and trueness of your colors. You can change from dark to light shades in a matter of minutes. No boil-outs are needed. You simply drain and rinse. Delicate shades are not affected by chemical reaction.

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There is a saving, too, in the extra life of ARMCO Stainless. It is bright, rustless metal all the way through . . . no plating to wear off. This means less shut-down time for replacements and repairs. Ask your equipment fabricator to tell you how easy it is to boost production and profits in *your* mill with Stainless equipment. The American Rolling Mill Company, 181 Curtis Street, Middletown, Ohio. Export: Armco International Corporation.

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- SPECIAL-PURPOSE SHEET STEELS
- STAINLESS STEEL SHEETS, STRIP, BARS AND WIRE

STAINLESS ARMCO STEEL

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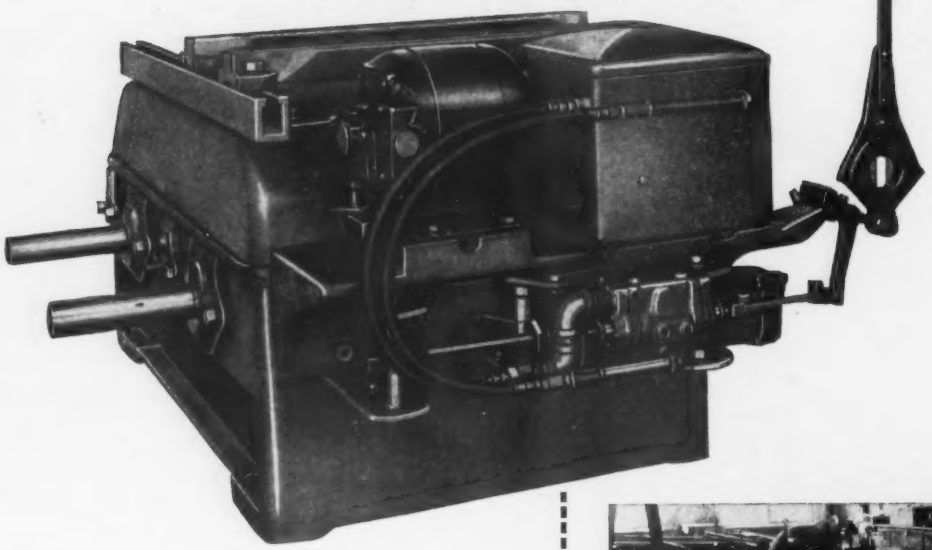
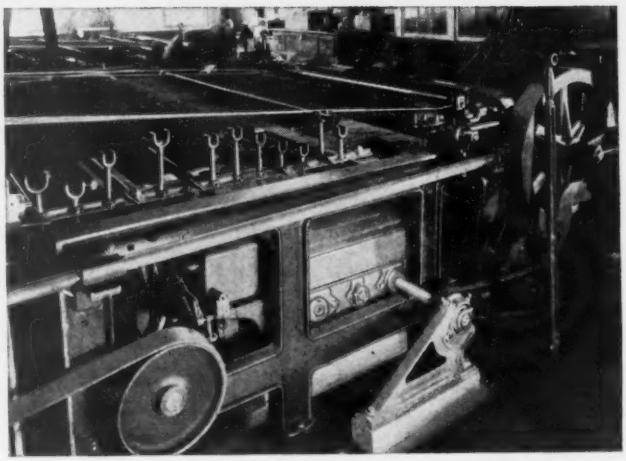
WITH REEVES SENSITIVE PISTON-TYPE HYDRAULIC REGULATION

pressure of only 1 to 2 ounces activates this indicator lever to effect speed changes



To run cotton, wool or any synthetic material in a continuous process, *without stretch* on cloth, install REEVES Hydraulic Automatic Speed Control. Consisting of the time-tested REEVES Variable Speed Transmission with piston-type, hydraulic regulation, this is the simplest, most dependable drive and control available. It can be serviced and maintained by any mechanic. No special tools nor training are necessary.

So sensitive is REEVES Hydraulic Automatic Control that pressure of only 1 to 2 ounces through follower roll, dancer roll or other activating force will produce changes in speed to regulate tension automatically and precisely to the degree desired. Already being widely used in range finishing—on beaming warpers, slashers and other winding processes. Our "field" engineers are thoroughly experienced in textile processes. Write us for special bulletin on REEVES Hydraulic Automatic Speed Control and ask for copy of complete catalog W-450.



Illustrated above is a REEVES Transmission with hydraulic automatic control driving loom beam of slasher. The sensitive hydraulic control lever is connected to a very simple follower roll which bears lightly against the yarn on the loom beam. Through its hydraulic control, the REEVES unit automatically reduces the r.p.m. of the loom beam and maintains constant y.p.m. surface speed as the beam increases in diameter. Reduces yarn stretch in slasher to less than 1%.

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REEVES Speed Control

Gives the Right Speed for Every Job!

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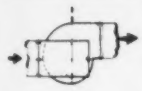
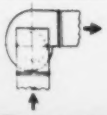
See how "Buffalo" LIMIT-LOAD FANS PERFORM WITH DIFFICULT CONNECTIONS

Obstruction		Percent Reduction in Capacity		
		Static Pressure	Buffalo Type "LL"	Competitive Forward Curve
	Elbow on fan outlet	1"	3%	7%
		¾"	3%	7%
		½"	3½%	11%
	Elbow on inlet from left side	1"	2½%	8½%
		¾"	2%	11%
		½"	3%	17½%
	Elbow on inlet from right side	1"	1½%	5%
		¾"	1½%	6%
		½"	2½%	7%
	Elbow on inlet from top	1"	2½%	5%
		¾"	2%	6%
		½"	3%	7%
	Elbow on inlet from bottom	1"	1½%	5%
		¾"	1½%	6%
		½"	2½%	7%

Note—Data is based on a fan outlet velocity of 1600 feet per minute.

Often, when space considerations call for installing a fan with elbow connections either on inlet or outlet, static pressures go up! You're paying for more power and less delivery.

However, you can cut these pressure losses to a very substantial degree with Buffalo Limit-Load Fans in such spots.

The table at left shows, by actual pitot tube readings at 1600 cfm outlet velocity, the way these Buffalo Fans can step up the efficiency in your air system.

Why not let Buffalo Limit-Load fans save you money? Simply write us for Bulletin 3339, which gives you all ratings, capacities and construction data on these quiet, trouble-free fans.

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for

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of

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Calendering, Pile Beat-up, Slitting, Printing, etc.

Left to right

1. Light source and transformer
2. Power transformer for photo-cell and preamplifier unit
3. Photo-cell preamplifier and rectifier unit
4. Main amplifier and control relays
5. Reversible controlling motor with gear reducer
6. Photo tubes for various color sensitivities

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combined with

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is just one

of the many textile electronic applications

which may be used in your mills.

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WEST ORANGE NEW JERSEY

California Law Bans "INFLAMMABLE" TEXTILES

HIGHLIGHTS: *Commercial standard by Bureau of Standards proposes test procedure which may become part of a Federal regulation—AATCC apparatus used—Three Eastern textile men worked with California fire marshal on the law.*

REGULATIONS prohibiting the manufacture and sale of dangerously inflammable apparel fabrics in California went into effect this month under direction of Joe R. Yockers, State Fire Marshal, San Francisco.

California laws are the first of their kind to be adopted by any state. However, it is expected that the new Congress will soon receive a national inflammable-fabric bill based on work by the National Bureau of Standards supported by the American Association of Textile Chemists & Colorists and the National Retail Dry Goods Association.

CALIFORNIA LAW. California's addition to its Health & Safety Code was drawn up by Marshal Yocker with the assistance of textile organizations and local retailers and manufacturers. Work was begun a year ago. Three types of fabrics are classified in the regulations as especially hazardous: (1) fabrics having a brushed, napped, or pile surface; (2) fabrics with a smooth surface which have been impregnated with an inflammable sizing or coating or are made from a solid pliable film; and (3) all fine, sheer, or light-weight fabrics, such as voile, marquisette, chiffon, veiling, and netting.

Any yard goods which cannot pass the specified tests may be sold only when clearly labeled, "Dangerously inflammable. This material should never be used in wearing apparel." This provision allows sale of plastic-coated fabrics for shower curtains and draperies.

All "articles of wearing apparel, cloth, drapery, or other fabric or material made from or containing any natural or synthetic fiber or any other material used for or intended for use in wearing apparel" may be tested under the rules, with these exceptions: hats (except caps and hoods), footwear, gloves, hand-muffs, spectacles, pocketbooks, bill-folds, and similar accessories, and interlining materials not exposed to the surface. The word "drapery" in the code refers to articles draped about the person, such as veils.

The tests described in the new rules are designed to show the relative speed with which flame will travel, either over the surface of the material or through the material itself, and the relative flash or ignition properties of the material. Highly inflammable fabrics are defined as those which will burn at the rate of 5 in. in less than 6 sec. or ignite in less than 5 sec. when exposed to radiant heat.

Five samples (each 2 x 6 in.) of the material are tested after being oven-dried and cooled. If one or more of the five samples fails to pass the tests, five more are tried. For approval, the average of the 10 tests must be 6 sec. or more and no one of the second five shall fall below 5 sec. This test procedure is repeated after samples are subjected to three combined washings and dry-cleanings. The testing apparatus must be approved by the fire marshal. The AATCC apparatus was probably in mind in the drawing of the California regulations.

Manufacturers, retailers, or wholesalers "who knowingly and wilfully violate any rule or regulation of the fire marshal relating to inflammable articles" are considered guilty of a misdemeanor and the article is subject to seizure.

Dr. H. E. Hager, chairman of the committee on flammable fabrics of the AATCC; Dr. F. Bonnet, head of the American Viscose Corp. research laboratories, and C. W. Dorn, head of research laboratories of J. C. Penney Co., worked with California members of the preparing committee and persons interested in a possible federal law.

FOR NATIONAL CODE. A trade standard dealing with Flammability of Textiles (TS-4258) has lately been circulated by the Division of Trade Standards, National Bureau of Standards. The recommended standard provides methods of testing fabrics; establishes minimum requirements which textiles and textile products shall meet to be considered non-hazardous; and provides for labeling to assure purchasers that they are obtaining fabrics or products that have met these tests. It was submitted by the American Association of Textile Chemists & Colorists and the National Retail Dry Goods Association. They hope that this standard will be incorporated in the bill, likely to be introduced before the new Congress, making such a standard compulsory on a Federal level.

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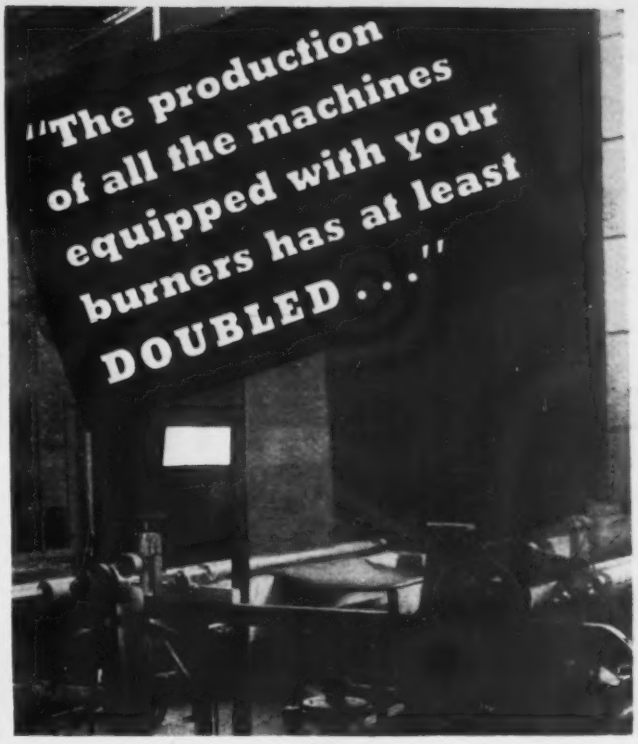

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Loomfixers' MANUAL

WOOL SECTION

Chapter XIX

FILLING FEELERS

By EUGENE P. SHREMP

FILLING FEELERS are used to indicate when the filling on the bobbin is nearly depleted, and to cause the supply to be replenished. They are used on looms equipped with rotary, stationary, and shuttle-changing mechanisms—some are electrical and others mechanical.

There are two types of electrical feelers in general use. With one type, the filling bobbins have a sleeve, or ferrule, of metal through which electrical contact between two insulated prongs is made when the yarn is used up and the metal is exposed. The other electrical feeler is the side-slip type which makes contact when the feeler blade slides on the exposed filling bobbin. These feelers have also been used to stop a manual box loom before the filling runs out.

MULTIPLE-WIRE FEELER. A type of feeler which works on an altogether different principle is known as the "multiple wire." The use of this feeler requires a special filling bobbin with a number of holes in it near the base end. When the filling is depleted, the holes are uncovered, and the arrangement of the wires is such that one of the wires enters the bobbin and, in turn, sets up the transfer motion. This feeler is not used on many looms today because drilling the bobbins weakens them so that they are easily broken.

To set multiple-wire feelers, have the wires level and about $\frac{1}{16}$ in. above the center of the bobbin in a properly boxed shuttle. With the lay at front center, set the feeler forward until the wires resting against the solid part of the bobbin will clear the chopper on its downward stroke. In this position, if the filling is depleted and one or more holes are uncovered, a wire entering the hole will cause a transfer. Set the stud in the transfer arm so that the wires are withdrawn far enough to clear the yarn of the transferred bobbin. It is important that the wires move freely, otherwise the feeler will not operate properly.

C&K No. 4 FEELER. Fig. W50 illustrates two types of feelers used on the new W-2 and W-3 Crompton & Knowles woolen and worsted loom. The No. 4 feeler is a caliper or double-contact type, while the No. 23 is a single-contact side-slip feeler. The No. 4 is used mostly in mills which weave very heavy yarn and do not wind a bunch on filling bobbins. It cannot be used successfully when two or more different sizes of filling yarns are used in the same fabric because the feeler jaw must be adjusted to the size of the filling.

When filling yarn is so heavy that it is impossible to wind a proper bunch, the No. 4 feeler may be used as a distance feeler by pushing the pin in until the feeler indicates with a minimum of waste. The amount of waste may seem excessive, but this is about the only way some kinds of heavy woolen filling can be woven on an automatic loom.

(*Continued on page 226*)

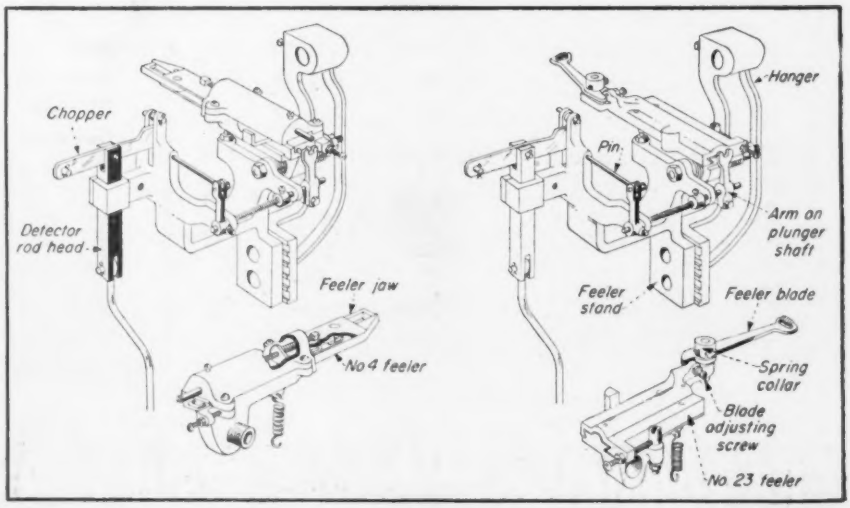

Fig. W50. No. 4 and No. 23 feelers—used on W-2 and W-3 C&K looms.

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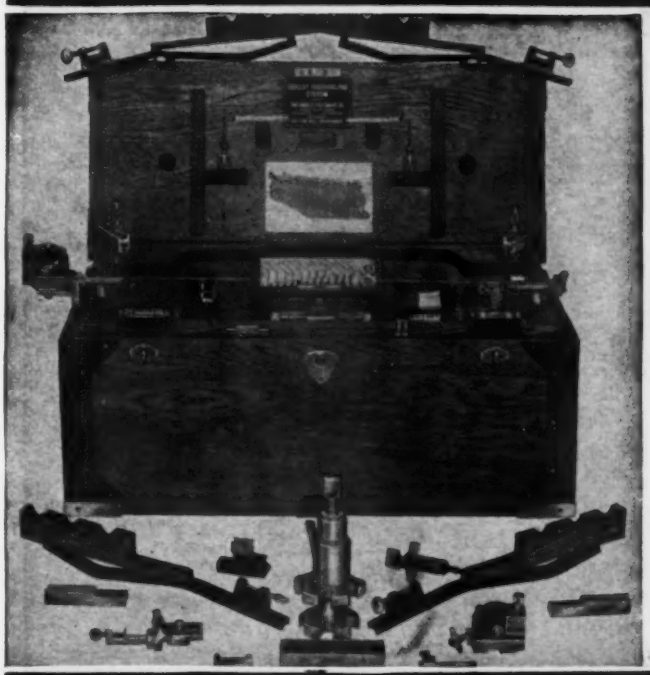

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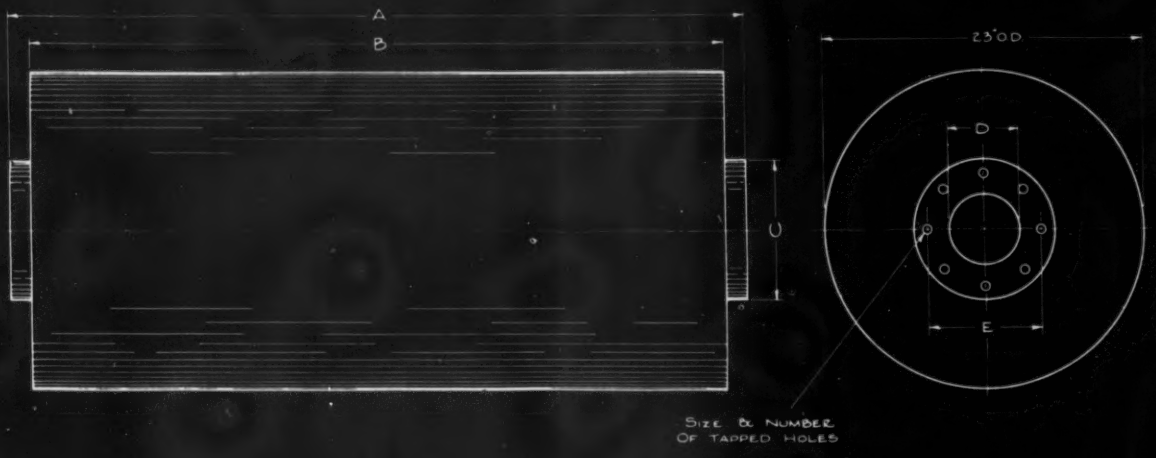

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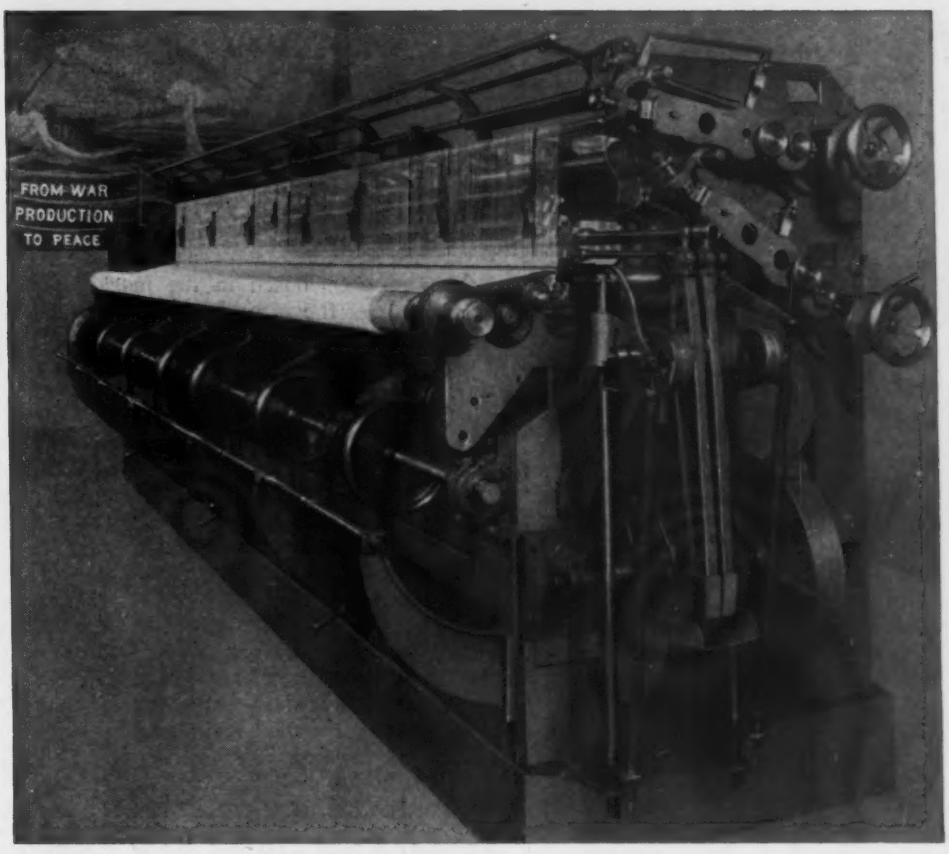

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THE STATE OF MISSOURI

In The Heart of America

(*Continued from page 222*)

C&K No. 23 FEELER. No. 23 single-contact sliding feeler is used on most of the newer Crompton & Knowles woolen and worsted looms. Of the different types mentioned, this is the most widely used for woolen and worsted looms.

To adjust the No. 23 filling feeler, first have a shuttle with an empty bobbin properly boxed in the magazine side. Set the vertical position so that the blade is $\frac{1}{16}$ in. above the center line of the empty bobbin. This allows for any slight rise of the shuttle when the loom is running. The feeler bed and blade should also be level, or the blade tip may slide under or over the bobbin and allow the filling to run out. A condition of this sort can be observed by turning the loom to front center and watching the travel of the feeler tip.

Before making any adjustments, all factors governing the vertical position should be checked. The tip may become bent. If it does, straighten it, and other adjustments need not be disturbed. A revoked bobbin may fall between the lay and the feeler stand, forcing the stand out of line. This condition may be corrected by loosening the set screws in the hanger that tightens on the transfer lever shaft and properly lining up the assembly.

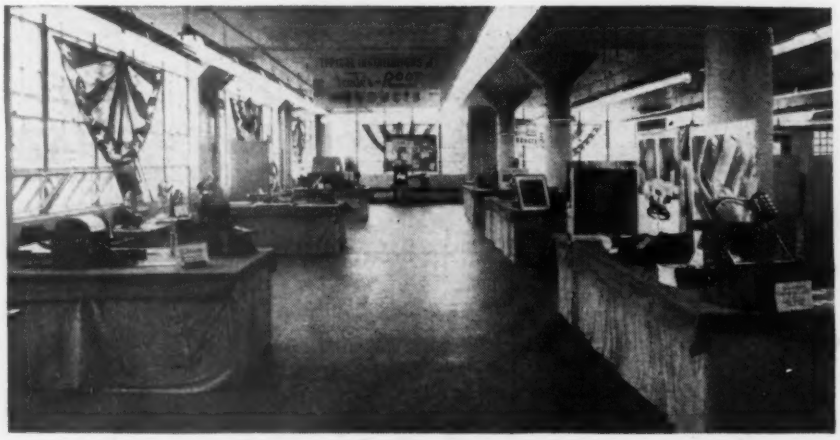
Lateral position is changed by loosening the check nuts on the bushing and turning it so that the collar on the transfer stud clears the slide. The transfer stud must strike the bunter on the feeler case, so that the blade is withdrawn from the shuttle during the bobbin transfer.

With the lay at front center, the feeler tip should slide approximately 1 in. on an empty bobbin. Make this adjustment by moving the adjusting screw at the end of the feeler case. Tightening the screw at the other end changes the angle of contact and causes the feeler blade to slide more easily.

Blade tension is controlled by a coil spring inside the spring collar which can be turned to change the spring tension. Too much tension causes the feeler tip to cut the filling on a partly exposed bobbin.

All moving parts of the feeler should be lubricated with light oil once each shift.

Veeder-Root Opens New Plant Addition With Four-Day Open House



Veeder-Root Inc. played host Dec. 14 to 17 to their employees, customers, and friends as an observance of the opening of a new 40,000 sq. ft. addition to their factory building at Hartford, Conn. During the open house, the second floor of the new building was given over to an exhibit of the company's products, showing the products themselves and the parts from which they are assembled.

The exhibit was planned and set up with the primary purpose of showing Veeder-Root employees the meaning and importance of their individual jobs. A week before the opening, a special booklet was sent to each employee's home, carrying a brief invitation to the whole family.

On hand to welcome the guests, steer them around, and answer their questions were all members of the company's engineering, sales, and administrative departments, including all sales personnel from the branch offices, and the company's president, John H. Chaplin; the sales manager, A. E. Kallinich; and chief of engineering, Harvey Spaunburg.

During the entire time the exhibit was open, the company's cafeteria served coffee and doughnuts.

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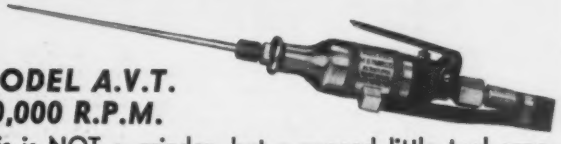

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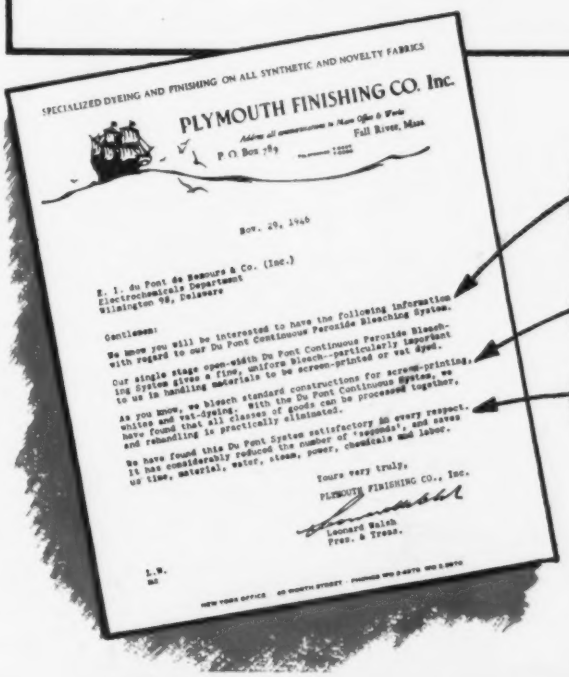

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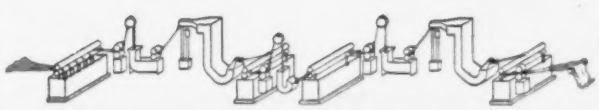

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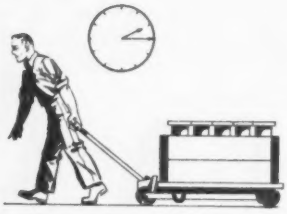

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News of the month

Reciprocal Tariff Hearings. The Department of State has issued formal notice of intention to conduct trade agreement negotiations with 18 other countries. The Committee for Reciprocity Information will hold public hearings beginning Jan. 13, 1947 in Washington. Only those filing a brief with the committee before Dec. 21, 1946, are to be heard. Most of the textile associations, one of the labor unions, the wool growers, and others are to be heard on the side of not further reducing tariff rates.

Urges Cotton Research Money from Congress. The critical need for adequate cotton research demands early Congressional action to make available appropriations of Federal funds authorized under the Agricultural Research Act of 1946, according to a message from Oscar Johnston, president of the National Cotton Council, to all Cotton-Belt congressmen and senators. Mr. Johnston points out in his letter that the act authorizes a total of 9½ million dollars for the current fiscal year and 19 millions for the year beginning July 1, 1947. He urged that the 9½ million dollars authorized for the present year be appropriated under a deficiency bill, in addition to the appropriation of the 19 million dollars for 1947-48.

Textile Calendar

National Cotton Council, annual convention, Galveston, Tex., Jan. 27 to 29, 1947.

Seventh International Heating & Ventilating Exposition, Lakeside Hall, Cleveland, Ohio, Jan. 27 to 31, 1947.

National Association of Finishers of Textile Fabrics, 33rd annual meeting, Hotel New Yorker, New York, Jan. 28, 1947.

Independent Association of Full-Fashioned Hosiery Manufacturers of America, annual banquet, Bellevue-Stratford Hotel, Philadelphia, Feb. 3, 1947.

ASTM spring meeting, Philadelphia, Feb. 24 to 28, 1947.

Knitting Arts Exhibition, Convention Hall, Atlantic City, N. J., Apr. 29 to May 2, 1947.

National Association of Hosiery Manufacturers, annual meeting, Hotel Claridge, Atlantic City, N. J., Apr. 28, 1947.

Hosiery Industry Conference, Hotel Claridge, Atlantic City, N. J., Apr. 28 and 29, 1947.

Second National Plastics Exposition, Coliseum, Chicago, May 5 to 11, 1947.

Cotton Manufacturers Association of Georgia, 47th annual meeting, Sheraton-Plaza Hotel, Daytona Beach, Fla., May 15 and 16, 1947.

A World Trade Week, sponsored by Chamber of Commerce of the U. S., May 18 to 24, 1947.

International Exposition of Textiles, Grand Central Palace, New York, June 2 to 7, 1947.

ASTM, annual meeting, Atlantic City, N. J., June 16 to 20, 1947.

TEXTILE WORLD HOLDS STAFF CONFERENCE. A three-day editorial conference held by TEXTILE WORLD in New York beginning on Dec. 7 brought together the New York staff, the field editors, and the consulting editors to plan objectives for the coming year. First row on the left: Earle Mauldin, Southern editor at Atlanta; Howard E. Knowlton, New England editor at Boston; Gustav Zellnik, consulting editor on wool spinning; C. Mallard Bowden, Southern editor at Charlotte. Starting with the back row on the left and going around the table: C. P. Wood, consulting editor on mill engineering; Prentice M. Thomas, associate editor located at Columbus, Ga.; Dorothy M. Benzmiller, secretary to Mr. Bendigo; Henry G. Lord, vice president of McGraw-Hill and founder of TEXTILE WORLD; C. W. Bendigo, editor-in-chief; Edwin D. Fowle, publisher; Gordon B. M. Walker, assistant editor; John Dalton, consulting editor on wool dyeing and finishing; William B. Dall, managing editor; Eugene C. Schremp, consulting editor on wool weaving; Francois Cleyn, consulting editor on worsted spinning; C. Norris Rabold, consulting editor on cotton and rayon dyeing and finishing; Sanford Parker, of McGraw-Hill economics staff; Robert M. Fink, art director.

Rayon Reports

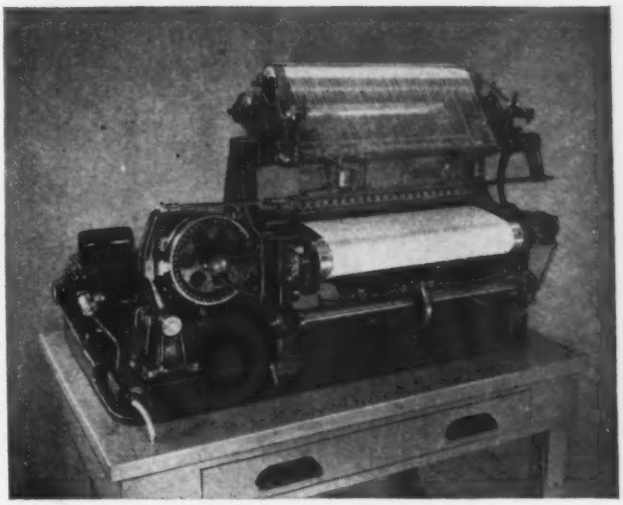
A Monthly Publication of American Viscose Corporation, New York, N. Y. JANUARY, 19

ANNOUNCE NEW TABLE-MODEL KNITTING MACHINE

AVECO, INC., manufacturers of the Aveco high-speed tricot knitting machine and a subsidiary of American Viscose Corporation, announces a new table-model Aveco machine to be used by textile mills in developing new fabrics and for instruction purposes in textile mills and textile schools.

The table-model machine is capable of knitting a fabric 21 inches wide, which is one-eighth the size of the 168-inch fabric made by the full-size Aveco machine. The small machine has an adjustable pattern wheel which permits quick and easy changes from one stitch pattern to another.

Past experience has shown that with a table-model machine experimental work can be carried out more quickly and economically than with a full-size machine. The small machine, for example, eliminates the necessity of taking a full-size machine out of production to make samples of new fabrics. Another advantage is that, because of its size, samples can be made with limited quantities of yarn.



Further information and prices of the table-model Aveco machines can be obtained from the Aveco Sales Division of American Viscose Corporation, New York.

CAREER PREVIEW FOR COLLEGE GRADUATES

American Viscose has prepared an informal outline for use of college graduates interested in general information about the Corporation. The booklet gives information on the many diverse, specialized departments of research, production and distribution of American Viscose, discusses the rayon industry in general, the Corporation and its career potentials in particular.

The "Preview of American Viscose Corporation" was motivated by the policy that "the successful development of our human resources is one of management's most important objectives." Copies may be obtained on request.

NEW CALENDAR GIVES INTERESTING FACTS ABOUT RAYON. An attractive 1947 wall calendar, prepared by the American Viscose Corporation, illustrates facts about the past and present of rayon. A limited number of these calendars are available for distribution.

RAYON 20 YEARS AGO

Increased use of rayon yarns is predicted in men's furnishings. Men won't be so "old Fogy" as to resist alluring rayon neckties, colorful handkerchiefs and shirts.

The U. S. rayon production figures of 70,000,000 lbs. per year show that this new industry is not transitory but has come to stay. It is even thought that chemistry will bring further advancements!

The Converters Association was recently instrumental in causing the railroads to apply the rates ruling on all-cotton fabrics to cloths made of cotton and rayon.

MAKE USE OF 4-PLY SERVICE

1 PRODUCT RESEARCH
Helps you get the right yarn or fiber.

2 FABRIC DEVELOPMENT
Helps you design new fabrics.

3 TEXTILE RESEARCH
Helps solve textile production problems.

4 FINISHING DEVELOPMENT
Helps develop and apply serviceable dyes and finishes.

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Offices: 350 Fifth Avenue, New York 1, N.Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.; Washington, D. C.; Wilmington, Del.

Plants at: Marcus Hook, Pa.; Roanoke Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

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Modern Machinery gives highest efficiency . . .

WASHING, DRYING, CARDING, COMBING, DRAWING & SPINNING MACHINERY — ENGLISH AND CONTINENTAL SYSTEMS

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Agents, U.S.A. and Canada.
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French System Machinery
The Blake Electrical Manufacturing Company
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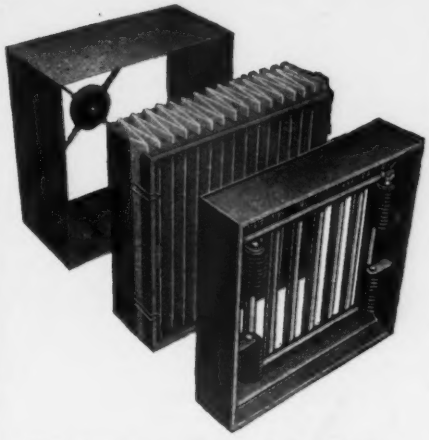
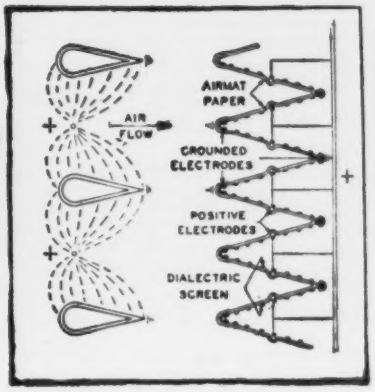
The only dry type Electronic Precipitator

AAF *Electro-* AIRMAT

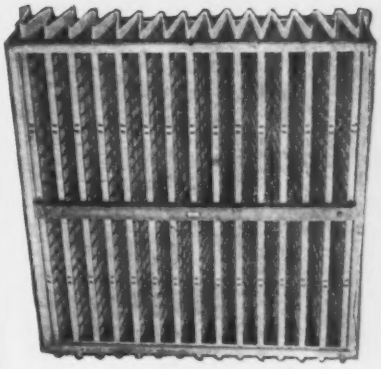
Introduces an entirely new principle in electronic precipitation combining the advantages of both electronic and mechanical air filtration in a single compact lightweight unit.



The three components of the Electro-Airmat precipitator are the Ionizer, Airmat Collector Element and Frame.



Cross section diagram showing Ionizer for charging dust particles and pleated arrangement of charged Airmat paper.



Rear view of Collector Element showing method of applying electrical potential to Airmat Collector Element.

The ELECTRO-AIRMAT, in which the collector element is electrostatically charged Airmat paper, is not only more efficient but affords positive protection against dust infiltration under any operating conditions including power failures.

Maintenance of the Electro-Airmat is simple and positive requiring only the replacing of the Airmat paper when its full dust load is reached. Installation is easy — no water connections, no sewer drains. It requires 30% less floor area and weighs 40% less than precipitators having metal plate collectors.

Two standard arrangements are available — the Straight Bank shown at top of page and the "V" arrangement at left which offers space economy and lowers power consumption. The Complete Electro-Airmat story is contained in Bulletin No. 253 — available without obligation. Write.

AMERICAN AIR FILTER COMPANY, INC.
304 Central Avenue, Louisville 8, Kentucky
IN CANADA, DARLING BROS., LTD., MONTREAL, P. Q.

There is a LUBRIPLATE Dealer near you . . . at the other end of your local telephone. He stands ready to prescribe the LUBRIPLATE Lubricant that will make your machinery last longer, run smoother and produce more product at less cost. He has a complete stock on hand to give you prompt delivery. Give him a ring.

LUBRIPLATE

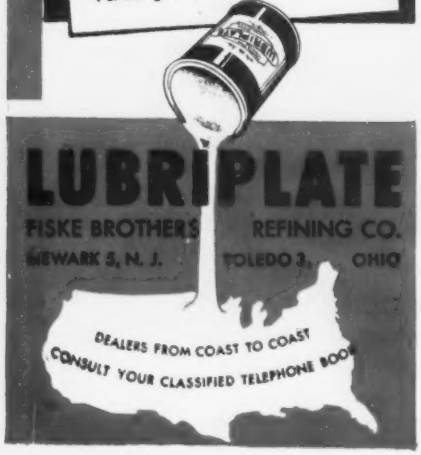
Lubricants definitely reduce friction and wear to a minimum. They lower power costs and prolong the life of equipment to an infinitely greater degree. LUBRIPLATE arrests progressive wear.

LUBRIPLATE

Lubricants protect machine parts against the destructive action of rust and corrosion. This feature alone puts LUBRIPLATE far out in front of conventional lubricants.

LUBRIPLATE

Lubricants are extremely economical for reason that they possess very long life and "stay-put" properties. A little LUBRIPLATE goes a long way.


LUBRIPLATE
FISKE BROTHERS REFINING CO.
NEWARK 5, N. J. TOLEDO 3, OHIO
DEALERS FROM COAST TO COAST
CONSULT YOUR CLASSIFIED TELEPHONE BOOK

N. E. Wage Increase. A wage increase of 10c per hour has been agreed upon for about 90,000 employees in 90 New England cotton and rayon mills, aggregating approximately $19,000,000 per year and bringing the new average to about $1.025 per hour, with an 83c minimum. Russell T. Fisher, president of the National Association of Cotton Manufacturers, stated to a representative of TEXTILE WORLD that wages have now reached the highest level ever attained in the industry, and that cotton-mill wages have risen considerably above so-called substandard levels as a result of the increases established within the last few years. In 1940, on a 40-hour basis, average earnings in New England mills were $18.84. Last fall, the average weekly reached $38.50 and with the new rates will total close to $41.00 on a 40-hour schedule. Since January, 1941, wages have gone up 118%, or about 50c per hour. According to Mariano S. Bishop, northern cotton director of the Textile Workers Union, CIO, the above increases represent the result of an adjustment between employees and mills, unhampered by strike threats. Similarly 50 wool mills have granted an increase of 15¢ per hour.

Maid of Cotton to Fly to Paris. The 1947 Maid of Cotton will fly to Paris and the Riveria in the spring, according to plans of the National Cotton Council. It will be the first time that the Cotton Belt's goodwill representative has flown the Atlantic or visited a foreign country. On her return from the fashion salons of Paris and Cannes she will resume her coast to coast tour to display her cotton wardrobe at fashion shows in more than 30 American cities.

Seminar at Shawnee May 12 to 16. The 1947 National Textile Seminar, sponsored by the Philadelphia Textile Institute will be held through the week commencing May 12 at the Shawnee Country Club, Shawnee-on-the-Delaware, Pa. The annual seminar was initiated last year in the week of July 8, at Hershey, Pa. The seminar committee for 1947 is the same that guided the inaugural affair at Hershey, with J. Marshall Cole, vice president of Cold Spring Bleachery, Yardley, Pa., chairman. Members include: Alban Eavenson, chairman of the board, Eavenson & Levering, Camden, N. J.; Rinaldo A. Lukens, vice-president, Continental Mills, Philadelphia; Carl C. Mattmann, Jr., Textron, Inc., New York; M. Earl Heard, director of research, West Point Mfg. Co., West Point, Ga.; R. S. Cox, dean, Philadelphia Textile Institute; and T. B. Hayward, manager, wool department, Swift & Co.

To Exchange Nazi Technology. In a joint statement, W. A. Harriman, Secretary of Commerce, and Sir Stafford Cripps, president of Great Britain's Board of Trade, announced Dec. 29 an Anglo-American agreement for the exchange of German technical information acquired by the two nations since VE-Day. In America, requests for British documents and summaries should be addressed to Office of Technical Services, Dept. of Commerce, Washington, where the British material received is abstracted and publicized through the *Bibliography of Scientific and Industrial Reports.*

Credit Was Omitted. The story entitled "Modern Humidification Installed in Lonsdale Mills" on page

GEORGIA ENGINEERING SOCIETY MEETS—Recent gathering in Atlanta at which C. E. Davies, executive secretary of ASME, New York, was principal speaker. Left to right: A. S. Benton, Westinghouse Air Brake Co.; E. W. O'Brien, president, ASME; T. E. Bell, Republic Flow Meter Co.; Earle Mauldin, Southern editor of TEXTILE WORLD and president of GES, who presided; Mr. Davies; Ernest G. Field, E. G. Field & Co.; George Yundt, honorary member, GES.

The Quality of Boger and Crawford knitting yarn is guaranteed—the highest tribute we can pay it.
Signed . . . . . .
Fredericka Boger

DOES YOUR KNITTING YARN HAVE *Vitamin* Q ?

Vitamin "Q" is *Quality*. And, as you know, good yarn *must* have Quality. With Boger and Crawford, Quality in knitting yarn is foremost — even above its production cost to us!

To be sure, the cost of making this yarn is high. Research — testing — production — all are thorough and expensive — but worthwhile! Because out of it all you get a *better* knitting yarn steeped with Quality. Yes, Vitamin "Q" is essential in knitting yarn!

BOGER & CRAWFORD

MERCERIZED YARNS

PHILADELPHIA, PA. • UTICA, N. Y. • BOGER CITY, N. C. • BOSTON, MASS • CLEVELAND, OHIO.

PRODUCES STOCKINGS A FEW HOURS AFTER BEING RECEIVED!

WILDMAN

Single-Head, Single-Unit, Full-Fashioned

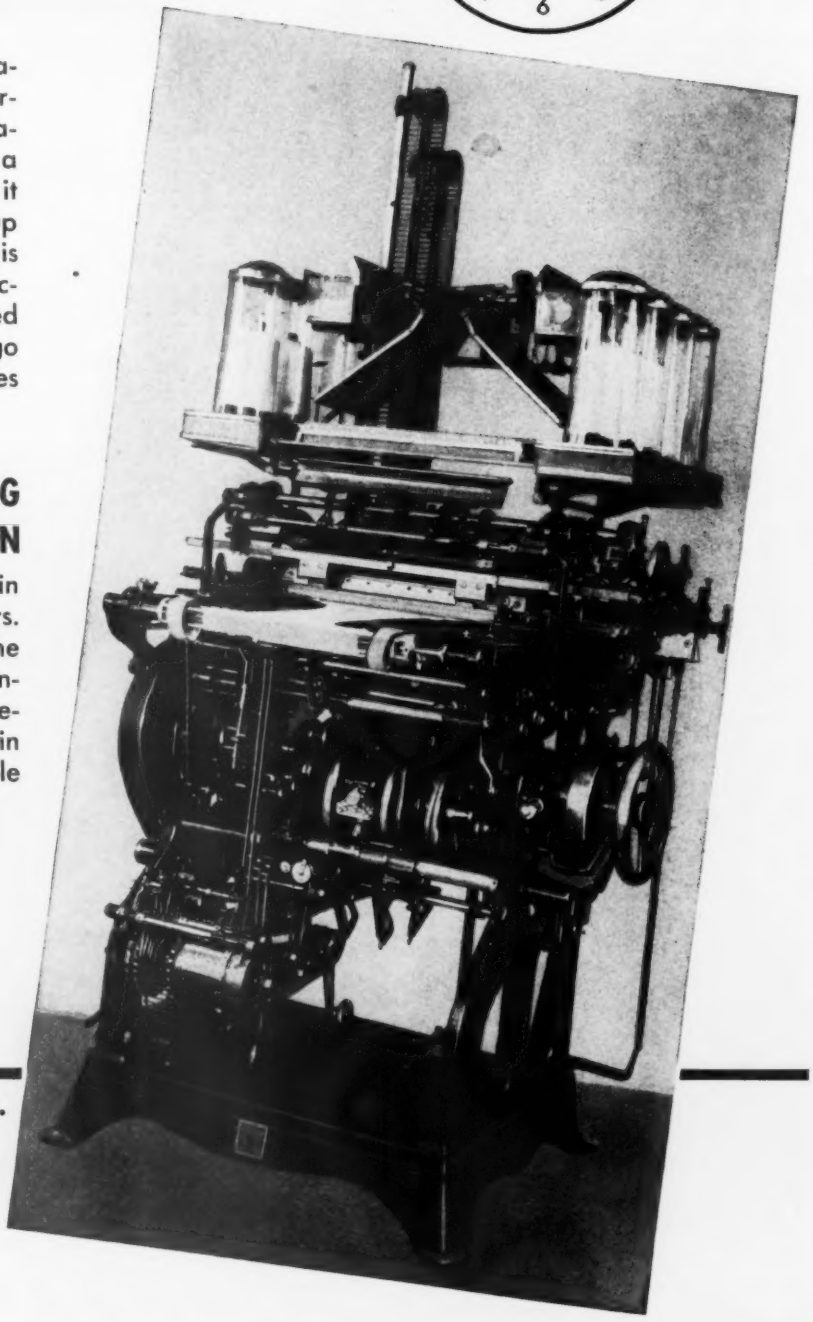
HOSIERY MACHINE

Readiness for almost immediate operation is just one, but certainly an important, advantage of this *Wildman* machine. It is shipped complete—and in a few hours after reaching your mill, it goes to work, building up, speeding up your stocking production. Compare this performance with that of multiple section machines which must be erected after arrival and are not ready to go into production for weeks, sometimes months.

Another of its big advantages, it

KNITS THE ENTIRE STOCKING IN ONE CONTINUOUS OPERATION

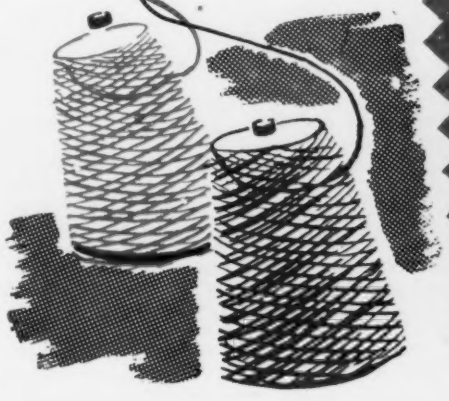
thus saving all the time usually lost in the change-over from leggers to footers. And another outstanding feature, the finer the gauge, the greater the advantages of this single-head machine because it is not affected by changes in temperature as is the case with multiple section machines.



WILDMAN MFG. CO., Norristown, Pa.

STANDARD CHEMICALS FOR THE TEXTILE INDUSTRY

Boil-Off Assistants	Pyrotex #121	Sulfonated Condensation product
Degumming Agents	Detersol	Soap and buffer salts
Detergents	Turpenol	Soap and solvents
Coning Oil	Nylon Oil #125 and #127	Nylon coning oil
	Stantex Coning Oil	Rayon coning oil
Delustrants	Duller W	Colloidalized pigment, light shades
	Dulstan	Colloidalized pigment, dark shades
Dye Fixing	Solidina	Alkyl aromatic addition compound
Dyeing Assistants and Penetrators	Pyrotex	Sulfonated condensation product
	Dyeing Oil	Sulfonated oils and solvents
Dye Retarding Agents	Retardine	Special mix for vat colors
Emulsifying Agents	Emulsifier Base	Specially treated sulfonated oils and fats
Finishing and Weighting Compounds	Voile Finish	Full, firm body finish
	Finish #415	Silk and rayon satins
	Weighter Finish	Gums and weighters for silk and rayons
	Guminol	Wool and cotton weighter finish
Scrooping Agents	Scroop Oil	Special sulfonated and saponified oils
Size	Rayon Size	Blend of wax and gums
Staple Fiber Oils	Stantex #3005	Finishing oil for raw stock dyeing of staple fiber
	Stantex #3006	
Softeners	Standapol Oils	High sulfonated vegetable oils
	Stanteosine	Cation active softener
	Tallofin	Sulfonated tallow
	Rubinol	Sulfonated cocoanut oil
	Wax Cream	Blend of softening waxes
Splashproofing and Waterproofing Agents	Stantex Splashproof	Colloidal waxes and metal salt dispersion
	Stantex Waterproofing	Colloidal waxes and metal salt dispersion



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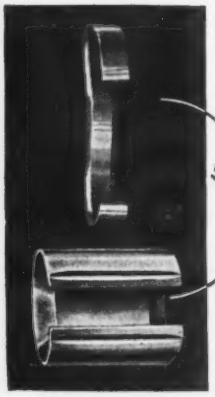
Different and Better!



Bevel Edge

THE *Modern* TRAVELER

Promotes smoother running
Safeguards quality

Anti-friction rings — U. S. "Bevel Edge" anti-friction travelers, both are especially timely because they promote maximum production from existing spinning and twisting machinery. Some of the direct benefits from the Bevel Edge travelers are stated by users as follows:

1. Less loading up of travelers on cotton
2. Less fly waste on woolen.
3. Minimizes split ends on rayon, and silk.
4. Much lower end breakage—frequently 8 to 10 fewer per hour.
5. More uniform tension—more uniform yarn.

Note: Selection of the correct size and weight, in which our men assist, is extremely important to assure MAXIMUM result.

U. S. Travelers are made and stocked in ALL styles.

DEPENDABLE DELIVERY—
PROMPT SERVICE CALLS

U. S. RING TRAVELER CO.
AMOS M. BOWEN, President & Treasurer
Providence, Rhode Island

"U. S." Men give you Prompt Service!

W. P. VAUGHAN—W. H. ROSE—Greenville, S. C.—Box 792—Phone 3031
O. B. LAND—Athens, Georgia—Box 1187—Phone 478
T. L. MAYNARD—Belmont, N. C.—Box 456—Phone 115
L. H. MELLOR, JR.—Mid-Atlantic States (Address Providence)
H. R. FISHER—Concord, N. C.—Box 83—Phone 8366
C. W. SMITH—H. J. SMITH—JAS. GREENLAW—Providence—Gaspee 0100

118 of TEXTILE WORLD, November, 1946, failed to give due credit to the source for the interesting photographs used as illustrations. These were made available through the courtesy of American Moistening Co., Providence, R. I., which company also made the installations pictured and described.

Teaching Growers to Sell Sorted Wool. As a result of a project under the joint auspices of the National Wool Growers Association, the United States Department of Agriculture, and Texas A & M College, 500,000 lb. of Texas wools have been sorted and graded in Fort Worth, Texas, under the joint direction of the Texas Wool & Mohair Association and Texas A & M College and have been shipped to wool manufacturers. The project, including the sale of the sorted wool and the scouring and sale of the off-sorts or shorter fibers, will show a profit, it is said.

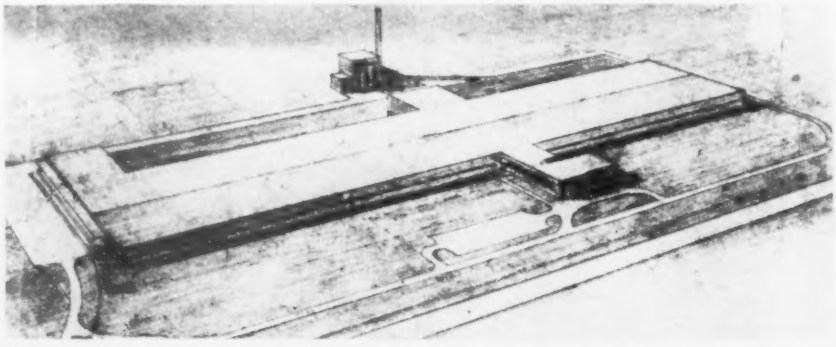
Orr Makes Impregnated Felts. By impregnating paper-makers' wool felt with a resin followed with a quick curing in a specially designed oven, the Orr Felt & Blanket Co., Piqua, Ohio, lengthened the life of such felts by 50 to 100%. These treated felts will command a 15% price premium. The curing oven was designed to Orr specifications by Albrecht, Lubin Co., consulting engineers, New York.

Knitted Outerwear Publicity. The Knitted Outerwear Foundation, under the chairmanship of Robert Seckler, of Shepherd Knitwear Co., is embarking upon the second phase of its campaign to enlist support for its publicity work to enhance the popularity of knitted outerwear. Martin Stern is publicity director. The foundation, which is a subsidiary of the National Knitted Outerwear Association, is national in scope and has so far devoted itself to the establishment of Sweater Week, planning of movies, and distribution of photographs and other material to bring the knitted product to attention of consumers.

Kellogg Loom. The W. M. Kellogg Co., Jersey City, N. J., is developing an automatic loom but has made no announcement of commercial entrance into the textile-machinery field. The loom, designed by engineers employed by Kellogg, has frequently been confused with the Swiss Sulzer loom in which Warner & Swasey, of Cleveland, O., is interested. The W. M. Kellogg Co. is a subsidiary of the Pullman Co.

Chicago Yarn Men Elect. The following officers have been selected by the Chicago Yarn Men's Club, to serve for 1947: president, M. Arnold Henderson; vice president, Charles F. Peffer; secretary, William C. Napier, Jr.; treasurer, Edward W. Wood.

Color Card Elects. At the 31st. annual business meeting of the Textile Color Card Association in New York on Dec. 19 Henry C. Van Brederode, of Celanese Corp. of America, and Charles F. H. Johnson, Jr., of Botany Worsted Mills, were new additions to the board of directors. The slate of officers includes: Roy E. Tilles, Gotham Hosiery Co., Inc., president; Carl E. Kempf, Brewster Hat Co., treasurer; and Margaret Hayden Rorke, secretary and managing director.



AYOTLA TEXTIL S. A. is erecting the plant shown above at Ayotla, Mexico, 15 miles from Mexico City on the Pan-American Pike. In this building, 160 x 900 ft., will be made such fine combed-yarn fabrics as broadcloths, organdies, etc. Hal Howarth is resident engineer for Robert & Co., Atlanta, Ga., the engineering firm in charge. The equipment includes Saco-Lowell preparatory machinery, Universal winders, Draper looms, West Point Foundry & Machine Co. slashers, and Parks & Woolson cloth room machinery. The plant is of one-story construction, with fluorescent lighting, standard fire protection, Bahnson Co. evaporative cooling and air-changing system. In addition there will be a complete community with 300 workers' houses, 24 foremen's houses, stores, shops, school, church, etc. The company recently changed its name to that given above from Atoyac Textil S. A. under which it was organized.

Formaldehyde-Heyden

FORMALDEHYDE-HEYDEN performs many important tasks in the Textile Industry. One is crease-proofing and crush-proofing of cellulose fabrics and fibers. This is done either by treating the fabric directly with Formaldehyde or with water solutions of special synthetic resins, made with Formaldehyde.

These resins are used also in combination with alkyds to coat or change the "hand" of textiles as, for instance, in the glazing of chintz.

Formaldehyde is further used as a preservative in sizing compounds to prevent mildew forming on the dried sized warp and finished woven goods.

FORMALDEHYDE-HEYDEN has set the standard of dependability for more than forty years. You can rely upon it for uniformity.

Further information and Technical Data Sheets will be sent upon request.

HEYDEN

FINE HEYDEN CHEMICALS

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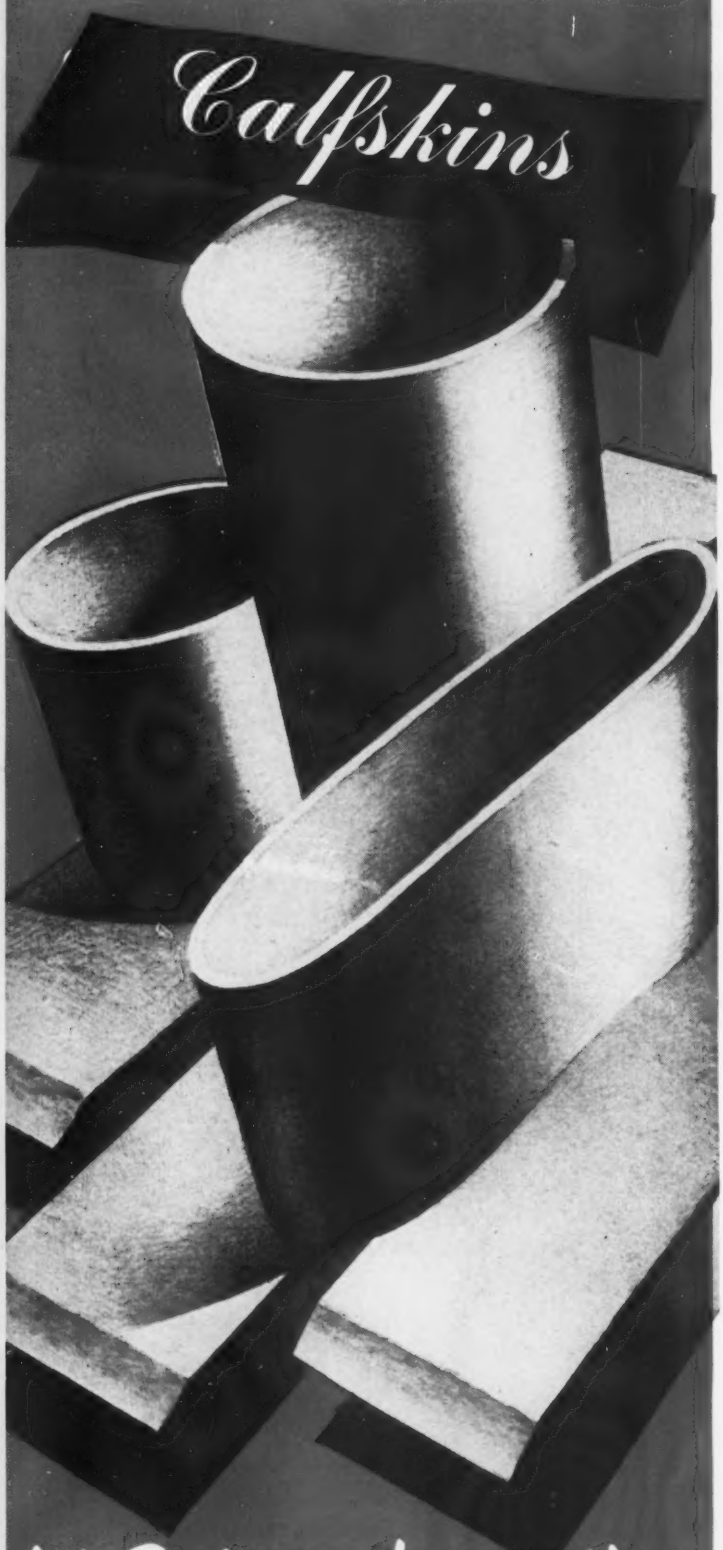
FIRST CHOICE FOR APRONS

LAWRENCE

Calfskins



It's Better Naturally

THAT'S WHY EVERY YEAR MORE PEOPLE DECIDE LEATHER IS BEST

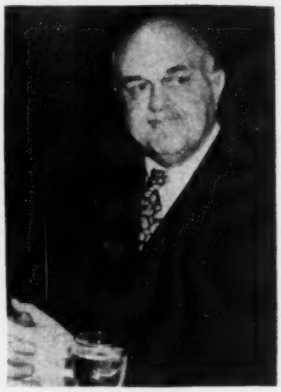
A. C. Lawrence Leather Company, Peabody, Mass. Manufacturers of Lawrence Spinna Calf for roll coverings. Represented by H. H. Hersey, Greenville, S. C.

A.C. LAWRENCE LEATHER CO. TEXTILE LEATHERS PEABODY MASS.

NEWS ABOUT Suppliers

Emmons Loom Harness Co., Lawrence, Mass., and Charlotte, N. C., has formed Emmons Loom Harness Export Co., a wholly owned subsidiary, to deal in the Emmons line of flat steel heddles, heddle frames, reeds, Goodrich strapping, and related weave-room equipment. The new company will continue foreign distribution of shuttles, bobbins, spools, lug straps, dobby cords, textile plastics, and various other items of textile mill and general industrial equipment.

Universal Winding Co., Providence, R. I., has appointed Robert A. Patten as controller. Mr. Patten joined Price Waterhouse & Co. in 1934. For the last two years he has been controller of United-Rexall Drug Co. He is a member of the American Institute of Accountants, The Controllers' Institute of America, and the Massachusetts Society of Certified Public Accountants. This appointment reestablishes a post not held in the company since 1936.



RALPH E. THOMPSON, president of Scott & Williams, Inc., New York, is shown at a reception and fashion show held at Statler Hotel, Boston, Dec. 5, to introduce the new-type, seamfree nylon hosiery which is being sold under the seal of the Dancing Twins. Mr. Thompson gave the welcoming address to an audience of New England merchandisers and stylists.

H & B American Machine Co., Pawtucket, R. I., began publication of a house organ for its employees in December, entitled "The Frame." Roland Whittaker is editor; and George Rodgers, assistant editor. Writing in the first issue, William A. Sipprell, Jr., chairman of the board, said, "Your company has recently passed through one of the 'valley' periods. It is now substantially emerging from that period and well on its way to a greater and more successful operation.... It is thus particularly significant that a new house organ commence publication at this point —for it heralds a new era for the company."

Arnold, Hoffman & Co., Providence, R. I., has appointed Elliott D. Cole to be general manager of its Anchor Color & Gum Works Division, Dighton, Mass. He succeeds Frederick W. Mayer, who is retiring after 40 years of service with the company. After three years with Mount Hope Finishing Co. as a chemist, Mr. Cole went with Anchor Color & Gum Works in 1920. He has acted as assistant manager for about 10 years. Arnold Hoffman has appointed William T. Clark to be manager of its Boston office. He succeeds Joseph A. Bryant, who is retiring after 50 consecutive years of service with Arnold Hoffman. Mr. Clark has been with the company since 1943 serving as assistant to Mr. Bryant.

Kaumagraph Co., Wilmington, Del.—A. D. Crawford, Chicago representative for the last 18 years, has resigned, effective Dec. 31, 1946, to become associated with Burson Knitting Mills, Rockford, Ill. He will be succeeded by William Buell Gardner, assistant buyer in the mens' hosiery division of Sears Roebuck & Co. for the last 10 years.

Warwick Chemical Co., Div. of Sun Chemical Corp., New York, has appointed Ira S. Hurd as assistant sales manager in charge of textile sales and technical development. War-

wick Chemical has added Willard Brothers to its New England sales staff. Mr. Brothers was with Wanskuck Co.'s Geneva Mills before the war. David E. York has been appointed regional sales manager in charge of the Philadelphia office. Assisting him in a sales capacity is Max Lane; in a technical capacity, is Robert T. McGuire. Warwick has created a Coated Finishes Department, of which Justus Hoyt has been appointed manager. Mr. Hoyt has been transferred to Warwick from the parent company, Sun Chemical Corp.

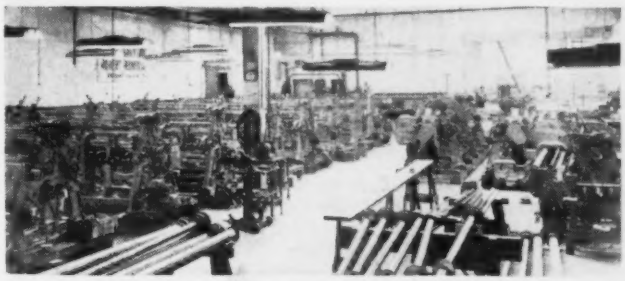
S. B. WILLIAMS, who became manager of customer relations for the Lighting Division of Sylvania Electric Products, Inc., New York, on Jan. 1. Mr. Williams is well known in the electrical publishing field having spent most of his editorial career with McGraw-Hill Publishing Co. since his graduation from Princeton in 1914. In addition to serving as editor of "Electrical World," for the last eight years, he had previously been assistant managing editor and managing editor. He also served as editor of "Electrical Record," and editor and general manager of "Electrical Contracting."

Anderson, Clayton & Co., dealers in raw cotton with headquarters at Houston, Tex., and branch office at 53 State St., Boston, Mass., have established a machinery export division at the latter address under Robert H. I. Goddard, Jr., formerly assistant to the general manager of the Lonsdale Co., Providence, R. I. The company has arranged to represent the Saco-Lowell Shops in Europe, headquarters on the continent being at 52 Champs Elysees, Paris, where the company has employed Salvatore Gangitano, for many years a textile engineer representing Saco-Lowell in Europe, to undertake all engineering work in connection with customers' inquiries. Anderson, Clayton will also represent the American Moistening Co., and are planning to handle the products of additional textile machinery manufacturers.

Stein Hall & Co., Inc., New York, has opened a New York sales branch office in the Empire State Building, to care for the metropolitan business which required more space than was available in the company's home offices at 285 Madison Ave. The New York sales branch is under the direction of C. J. Dunache, manager.

Wyandotte Chemicals Corp., Wyandotte, Mich., reports progress on the $25,000,000 expansion program announced last summer. One of the three new calcium carbonate units is already in production, a second is soon to roll. Exteriors of the glycol buildings are nearly completed and production should begin in the spring of this year. Chlorine No. 3 plant is still in the foundation stage, with production scheduled for late 1947. Construction plans call for completion of the synthetic detergent plant late 1947.

Duesberg-Bosson Corp. has bought from War Assets Administration a plant at Fitchburg, Mass., which it will use



ROBERT REINER, INC., Weehawken, N. J., recently delivered its 100th RT high-speed tricot machine, with knitting width of 168 in. Production is being accelerated in the tricot machine assembly hall, shown above, in the Reiner plant at Weehawken.

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LAWRENCE
Spinna Calf
It's Better Naturally
THAT'S WHY EVERY YEAR MORE PEOPLE DECIDE LEATHER IS BEST
A. C. Lawrence Leather Company, Peabody, Mass. Manufacturers of Lawrence Calfskins — 1st choice for aprons.
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TRADE MARK REG.

for the manufacture of textile machinery, employing about 100 persons.

H. & B. American Machine Co., Pawtucket, R. I., has appointed Fritz Zweifel, formerly division sales manager of the company's Charlotte Div., to be general sales manager. Mr. Zweifel is now making his headquarters in Pawtucket. He is succeeded in Charlotte by Herman J. Jones, formerly attached to the Atlanta office. J. C. Martin is division sales manager at Atlanta, and E. Haswell covers the New England territory working out of the Pawtucket sales office.

E. I. du Pont de Nemours & Co., Wilmington, Del., has appointed Robert L. Richards as assistant general manager of the Rayon Dept. Willis Shackelford, manager of the Acetate Div., succeeds Mr. Richards as an assistant manager of the department. Dr. G. W. Filson, assistant manager of the Rayon Div., succeeds Mr. Shackelford as manager of the Acetate Div. George E. McClellan, director of production of the Rayon Div., succeeds Dr. Filson. Mr. Richards succeeds Charles A. Cary who was elected a vice president, director, and member of executive committee.

Aridye Corp., Fair Lawn, N. J., heretofore a wholly owned subsidiary, became a division of its parent company and is now known as Interchemical Corp., Textile Colors Div. Customer relationships, policies, management, and personnel remain the same, the change being merely one in corporate organization.

James Hunter Machine Co., North Adams, Mass., will celebrate 100 years of unbroken operation this year, 1947. The company has been continuously in the same family ownership, which is now in its 6th generation.

Burdett Mfg. Co., Chicago, has moved to new and larger quarters at 3433 West Madison St., Chicago. The company has recently doubled its production capacity of infra-red gas burners.

Willcox & Gibbs Sewing Machine Co., New York, has appointed John E. Mattson, lately assistant manager of the Boston Branch, to be manager of the Boston District of the company, effective Jan. 1.

National Oil Products Co., Inc., Harrison, N. J., through its directors has voted to change its name to Nopco Chemical Co., subject to approval of stockholders at their annual meeting in March.

United States Testing Co., Inc., Hoboken, N. J., has elected to its directorate William Fraser, treasurer of J. P. Stevens & Co., and James A. Linen, publisher of *Time Magazine*.

A. E. Staley Mfg. Co., Decatur, Ill., has announced a $15,000,000 expansion program to increase production and completely modernize present processes. Work will soon begin and completion is expected in about three years. During the work, the corn grind, which stands at present at 50,000 bu. daily, will not be interrupted

CIBA CO. PROVIDENCE MANAGER RETIRES—Ralph F. Culver, formerly manager of the Providence, R. I., office of Ciba Co., Inc., who retired recently after 25 years at that post, was given a testimonial dinner recently at the Hotel Narragansett, Providence. In this photo of the head table, Mr. Culver is receiving gifts from more than 100 friends and associates present. Left to right: Dr. Louis A. Olney, professor emeritus, Lowell Textile Institute; P. J. Wood, technical director, Royce Chemical Co.; Mr. Culver; Allison Fletcher, Franklin Process Co., and Raymond W. Jacoby, Ciba Co., who has succeeded Mr. Culver at Providence.

Things you never saw before

This advertisement is addressed to finishers and dyers who have never used Diastafor brand de-sizing agent—Type L. It is written for the man with an open mind, regardless of old loves and loyalties.

Just as a long-range telescope brings before your eyes things you never saw before, Diastafor—Type L can bring to your finishing and dyeing operations ease of use and flexibility you never dreamed of in a de-sizing agent.

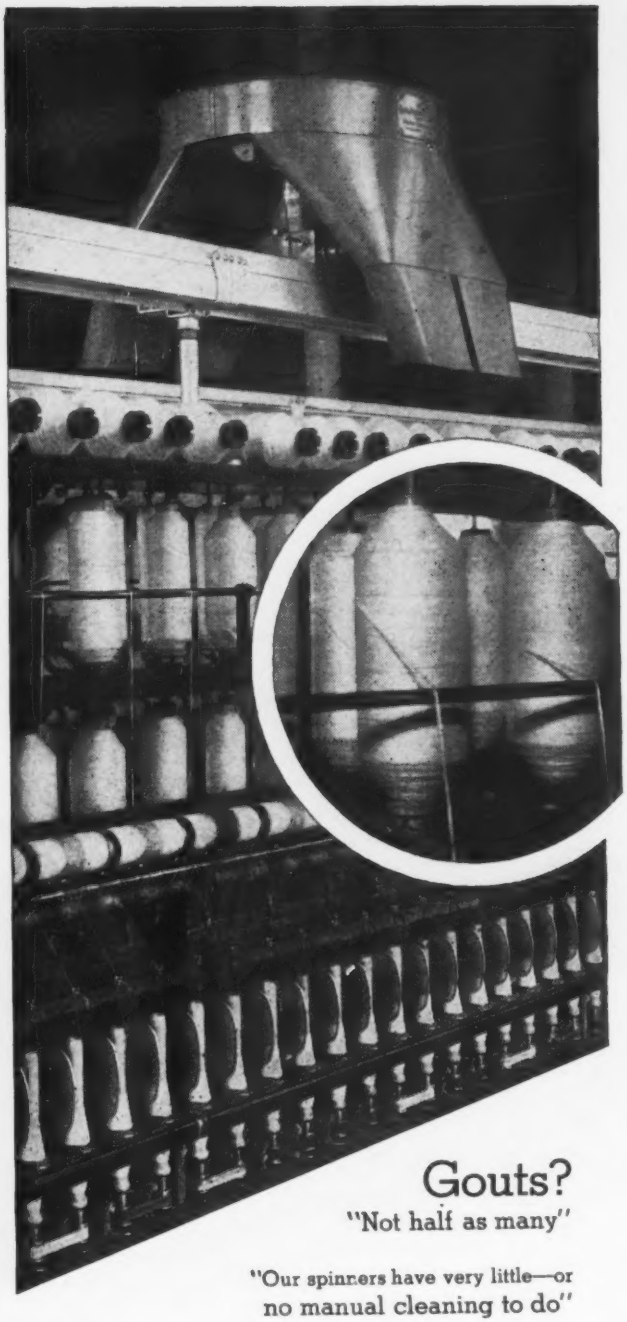
This all-purpose de-sizing agent has been developed especially to enable you to work in a wide temperature range. It will work well in a wide pH range. Whether you are working with cottons, rayons or mixed goods, it will give you a smooth, flawless performance. When you use Diastafor—Type L your finishing problems are simple. Diastafor helps prevent uneven dyeing. Never any impairment of tensile strength.

Bleachers and dyers who have used Diastafor—Type L know it really is the fool-proof de-sizing agent. They have made Diastafor the leader for 39 years because they know they can depend on it for easy, economical performance throughout their de-sizing operations.

If you think we seem over-enthusiastic, you should look over our mail and see what users say about it. We shall be glad to send you further information about Diastafor upon request. Our sales and technical staffs are always at your service to give you assistance on any specific problem. Write Strong Cobb Division of STANDARD BRANDS INCORPORATED, *Diastafor Department*, 595 Madison Avenue, New York 22, New York.

DIASTAFOR

A TRADE MARK OF STANDARD BRANDS INCORPORATED



Gouts?
"Not half as many"

"Our spinners have very little—or no manual cleaning to do"

"Parks Traveling Cleaners helped greatly. Wouldn't want to be without them"

"After installing your Cleaners in spinning, improvement was noticeable in the weaving. Loom stoppage was reduced 32 per cent.

Outlets in Parks Traveling Cleaners may be adjusted. Air streams may be spotted directly down, or out. Each side may be adjusted independently of the other.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

but will eventually be increased to 75,000 bu.

Tennessee Eastman Corp., New York, has opened a newly constructed sales office, laboratory, and warehouse for Eastman acetate dyestuffs at Lodi, N. J., for the convenience of dyers in the Eastern area. The new laboratory is equipped to render complete service in the dyeing and processing of acetate, acetate and mixed fibers, nylon, and all other synthetics. Facilities will be available for re-checking, dyeing, and printing tests, and all fastness-properties tests. The sales office, formerly located in New York, has been moved to the new building and will continue to be under the direction of F. L. Bume.

American Society of Mechanical Engineers (Textile Division) visited the plant of Robert Reiner, Inc., Weehawken, N. J., on Dec. 6. Following the inspection of the Reiner premises, the corporation's president, Dr. Robert Reiner, was host to the visitors at a luncheon at the Swiss Town House, Weehawken.

The Rohm & Haas Co., Philadelphia, Pa., has acquired about 500 acres of land on the Houston Ship Channel, Deer Park, Texas, to use for a plant to manufacture chemical products.

Pennsylvania Salt Mfg. Co. of Washington, a subsidiary of the Philadelphia company has opened a district sales office at 6400 N.W. Front St., Portland, Ore.

Milton Harris Associates, Washington, D. C., have added to their staff James C. Shore, Robert E. Wright, Fritz Kobayashi, and Dorothy V. Reinhard. Mr. Shore was formerly of Southbridge Finishing Co. and United States Finishing Co. Mr. Wright is a technical librarian. Mr. Kobayashi was with the Textile Foundation before serving in the Army Medical Corps. Miss Reinhard formerly was with the Allegheny Ballistics Laboratory.

Andrews-Alderfer Processing Co., Akron, Ohio, has equipped its new plant for the production of latex cut-rubber thread, and is now in full production. The thread is packaged in either chains or skeins, or on individual-end spools. C. Walter Seidel, Chicago, Ill., has been appointed Mid-Western sales representative for the Andrews-Alderfer elastic thread for the hosiery and knitting trades.

HORACE G. CLEVELAND, who has been elected a vice president of J. M. Mathes, Inc., New York. He has been associated with the company since 1937 and is in charge of accounts in the textile, home furnishings, and apparel fields.

Harte & Co., Inc., New York, has appointed Arthur A. Regel, formerly associated with the United States Rubber Co. in the Plastic-Insulation Department, to be chief chemist in charge of laboratory research in the division of plastic fabrics and sheetings. Harte makes plastics under the Wataseal brand.

Westvaco Chlorine Products Corp., New York, has placed George F. Sharrard in charge of technical service activities. Mr. Sharrard was previously in the Industrial Engineering Department of Eastman Kodak Co.

E. F. Drew & Co., Inc., Boonton, N. J., has appointed E. I. Valko as director of research, with headquarters at Boonton. Dr. Valko holds numerous patents and has written books dealing with the chemistry of colloids, proteins, elastomers, textile fibers, germicides, and surface-active agents.

The Permutit Co., New York, N. Y., has elected four vice presidents as follows: J. D. Yoder, manager of the Boiler Feedwater Division; D. J. Saunders, manager of industrial sales; G. N. Proctor, manager of manufacturing; H. L. Beohner, technical manager.

Johns-Manville Corp., New York, has appointed Francis J. Wakem as vice president of Johns-Manville Sales Corp. He will also continue as merchandise manager of the Industrial Products Division.

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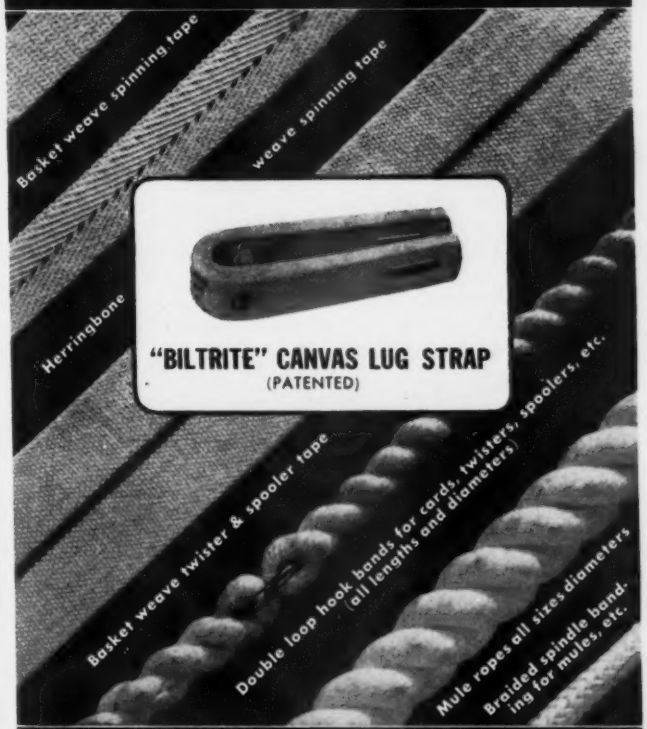
FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
Herringbone
"BILTRITE" CANVAS LUG STRAP
(PATENTED)
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle banding for mules, etc.

LAMBETH ROPE CORPORATION
NEW BEDFORD, MASS., U. S. A.

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Strong talk from a worthy working girl to Mr. Head Man!

But then—whether she expresses her sentiments aloud or not—that's just about how strong her attitude is on the subject of cleanliness.

The straight-from-the-shoulder truth is—many an employee feels there isn't room enough in an organization to hold both herself and a neglected, unsanitary washroom.

That home-clean, spic-and-span washrooms inspire permanent loyalty, help prevent the spread of disease, reduce absenteeism and increase efficiency accordingly . . . is no idle washroom chatter. Surveys staunchly back up the facts.

Employees, after all, are as humanly sensitive to their surroundings as the "Boss" himself.

And that's good enough reason why so many alert employers the country over are "heading West" . . . meaning the use of West Washroom Service. Provenly the *West Way* is *one* way of keeping company morale *high* by keeping the "germ count" *low*.

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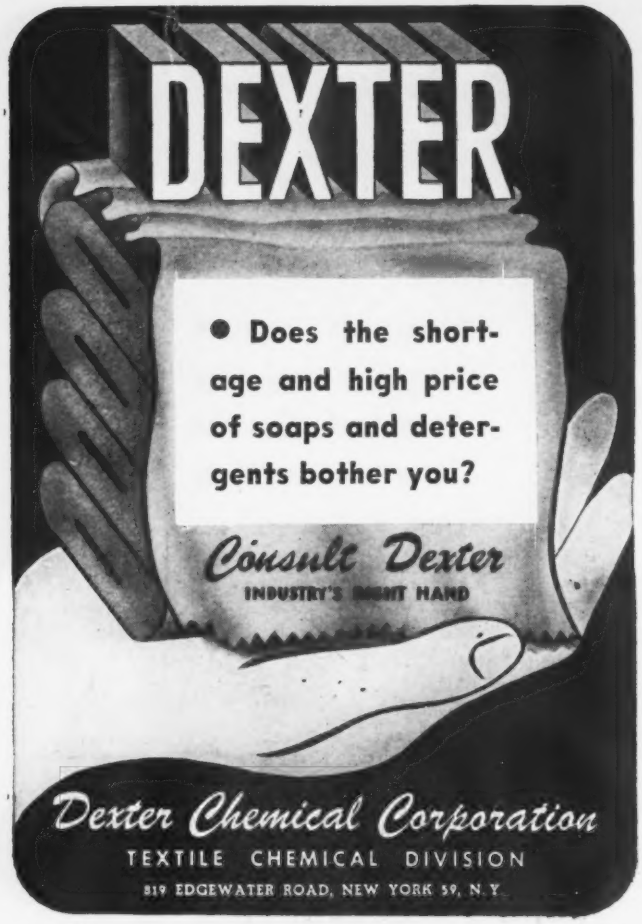
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Albany, New York

NEWS ABOUT Mills

Cotton Mill News

Amer-Ind, Inc., Meridian, Miss., may permanently close the plant, formerly known as Southern Cotton Co., purchased by Amer-Ind., Inc., in July, 1946. The same company, representing foreign interests, is reported to have contracted to buy the common stock of Acworth Mills, Acworth, Ga.

Anderson Cotton Mills, Anderson, S. C., **Courtenay Mfg. Co.,** Newry, S. C., and **Grendel Mills** and **Panola Mills,** Greenwood, S. C., have merged into a corporation to be known as Abney Mills. The four plants operate 158,496 spindles and 4,025 looms. Present officers of Grendel Mills reportedly will be the officers of the new organization. Among these are F. F. Grier, president and treasurer; H. F. Runge, executive vice president; E. W. Seigler, general manager.

Baxter, Kelly & Faust, Inc., Philadelphia, Pa., has established a 22-loom branch mill in Stonewall, N. C., to manufacture pile fabrics. John E. Baxter is president, H. M. Nelson is manager, and A. Coleman is superintendent.

Callaway Mills, Manchester, Ga., has received CPA approval to build a $50,000 addition to its weaving plant.

Carolina Fabrics, Inc., Rocky Mount, N. C., is a newly established plant operating 50 box looms.

Clark Thread Co., Newark, N. J., is said to be seeking a location in Acworth, Ga., in which to locate half the Newark plant. The company is surveying another Georgia location for the other half. It will erect a new finishing plant in Albany, Ga., and is planning another mill in Thomasville, Ga. Each will cost $500,000, including equipment.

Cora Mill, Kings Mountain, N. C., recently purchased from Textiles, Inc., Gastonia, N. C., by Scranton Lace Co., Scranton, Pa., will henceforth be known as Craftspun Yarns, Inc. The new company has authorized capital stock of $1,200,000.

Duplan Corp., New York, N. Y., recently purchased Canadian Label & Webbing Co., Toronto, Ont.

Drummondville Cotton Co., Drummondville, Que., recently purchased John S. Brooks, Ltd., a fishing-net and twine plant in Dunnville, Ont.

Filatures et Tissages du Congo Belge, Albertville, Belgian Congo, will begin operating a modern textile plant which will be moved there in its entirety from the United States. The mill will have 500 looms.

Jefferson Electric Co., Bellwood, Ill., has acquired Mechanics Mills, Fall River, Mass., from the War Assets Administration for $400,000 and plans to reopen it.

Joanna Textile Mills Co., Goldville, S. C., has awarded contract to G. E. Moore & Co., Greenwood, S. C., for a sewage disposal plant.

John P. King Mfg. Co., Augusta, Ga., has let contract to C. M. Guest & Sons, Anderson, S. C., for a 60 x 100 ft. two-story addition.

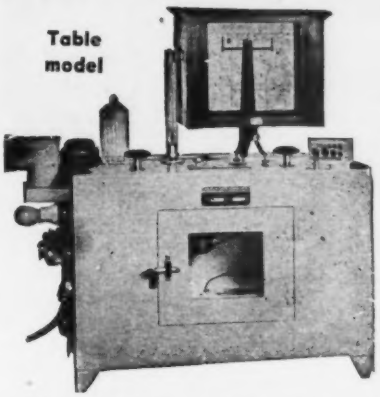
Leading Embroidery Co., North Bergen, N. J., which recently purchased Cowpens Mfg. Co., Cowpens, S. C., is now operating the plant at nearly top capacity. Almost $500,000 worth of machinery has so far been installed.

George C. Moore Co., Westerly, R. I., is completing plans for a 120 x 150 ft. branch mill in Greenville, Tenn. Cost, including equipment, will be about $100,000.

Mooresville Cotton Mills, Mooresville, N. C., has completed a building and moderni-

Textile Testing Ovens

Table model



Eight-Basket Oven—Can be equipped with 8 Baskets—3" x 3" square, and 6" deep; or with 6 Baskets, 4¼" x 4¼" and 6" deep. Sets on table in space of 20" x 40."

Check Yarn Samples for Moisture

Test all your yarn, stock in process, and finished goods—for moisture content—with accuracy. Weighing can be made without opening the oven door.

EMERSON Ovens

Are built in different types to handle wool, cotton and silk. Equipped with baskets to fit the work. Write for details on EMERSON OVENS to fit your process.

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STAINLESS STEEL

VALVE SUCCESS

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Primary Factors

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(2) Excellence of Design and Construction

Aloyco Gate Valve No. 111

Aloyco Valves are made in a wide variety of corrosion-resisting alloys. It has taken us many years of specialization in the manufacture of corrosion-resisting valves exclusively, to gain the experience which enables us to recommend the *one best alloy* for any specific application. Of equal importance with the selection of the correct alloy, is the quality of design and construction of the valve. Here again our concentration on the fabricating of corrosion-resisting alloys makes Aloyco Valves distinctive for mechanical excellence. Consult us on your requirements.

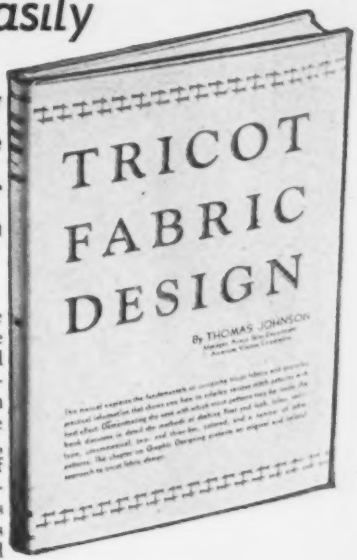
ALOYCO *Stainless Steel* VALVES and FITTINGS

GATE VALVES • GLOBE VALVES
Y VALVES • CHECK VALVES
LEVER THROTTLE GATE VALVES
TANK VALVES
SCREWED FITTINGS
FLANGED FITTINGS
GAUGE GLASS FITTINGS

ALLOY STEEL PRODUCTS COMPANY, INC.

1304 WEST ELIZABETH AVENUE — LINDEN, NEW JERSEY

How to design tricot products *swiftly--easily*



Let this manual show you, step-by-step, the design of tricot fabrics in varying stitch patterns

Here's a compact, complete design manual showing the fabric designer, quickly and simply, the methods of designing tricot fabrics in varying stitch patterns. The manual demonstrates, first, the basic fundamentals of tricot fabric design. It describes how the fabric is formed, and the various stitch-making elements and their functions. It supplies diagrammatic descriptions of the actual machine process. The manual then provides a simple, easily understood *method* of drafting tricot patterns, demonstrating the ease with which tricot patterns may be made. Methods of drafting various types of stitch patterns—pique and corduroy, meshes and nets, gaiting, float and tuck, inlay, etc.—are included.

Just published!

TRICOT FABRIC DESIGN

By THOMAS A. JOHNSON

Manager, Aveco Sales Department, American Viscose Corporation

124 pages, 5½ x 9, 79 figures, $2.50

This manual supplies the basic design data and drafting methods that will enable you to explore all the possibilities of the tricot machine. It provides simply worded explanations and scores of careful diagrams illustrating actual drafts of various stitch patterns, covering all the basic elements of tricot fabric design.

The manual makes each machine factor that affects pattern design crystal clear, and points out such elements as the use of adjustable pattern wheels, or "stud wheels", how to increase the number of steps usable on the pattern wheel, and the possibilities of patterns including two-needle laps under the beads. It covers in short, concise chapters, a wide variety of possible stitch patterns, including single-, two-, and three-bar patterns.

Here are some of the details of pattern design the manual supplies:

- **—stitch-making elements and their functions**
- **—how the pattern wheels function**
- **—description of wales, courses, revolutions and laps**
- **—how to draft the patterns**
- **—description of the warping operation**
- **—demonstration of open and closed stitches**
- **—possibilities for three-bar patterns**
- **—requirements in drafting colored patterns**
- **—how to control correct warp ratios**
- **—how to prevent runs and splits**

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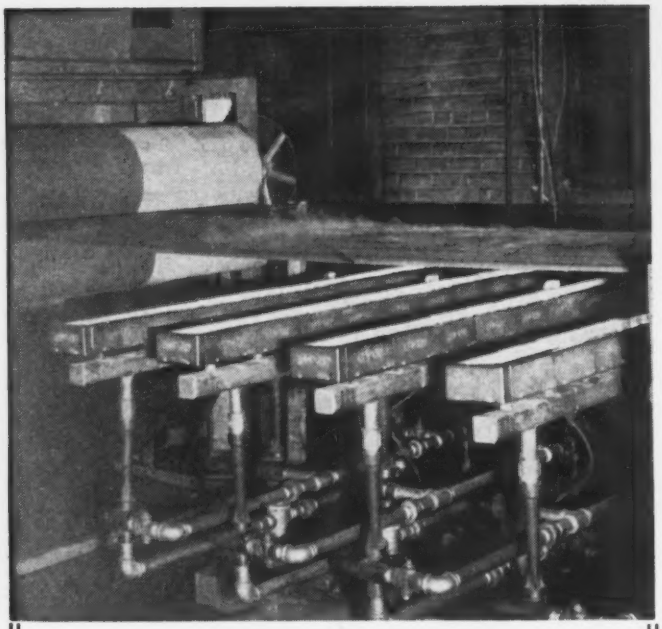

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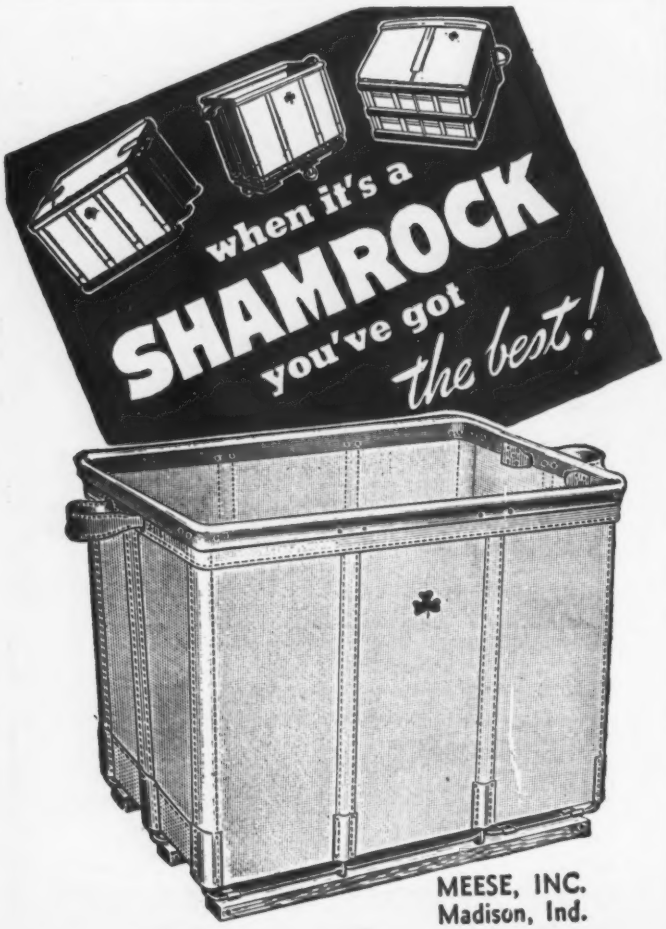

MEESE, INC.
Madison, Ind.

zation program which cost over $500,000. Other plans involving more than that amount are being held in abeyance until materials are available. The largest addition to the plant is a complete dye unit, which is now in operation with eight of the 10 vats.

Newbury Mfg. Co., Talladega, Ala., plans a $100,000 expansion program which will get under way as soon as building conditions permit. The plant was recently purchased by Arthur E. Lee and Arthur J. Lee, Talladega, R. A. Lloyd, Anniston, Ala., and R. A. Donaldson, Birmingham, Ala. Mr. Donaldson is plant manager.

Pepperton Cotton Mills, Jackson, Ga., is installing a complete water system, including a sewage system, at a cost of $150,000.

Puerto Rico Industrial Development Corp., San Juan, Puerto Rico, in its proposed cotton mill, will include new preparatory equipment, 360 new looms, and a finishing plant. Cost of building is $650,000.

Springs Cotton Mills, Lancaster, S. C., hopes to have its new $7,000,000 finishing plant in operation by the middle of 1947.

Startex Mills, Tucapau S. C., is tripling the size of its bleachery, and other expansion and reconversion work is also under way. The plant is shifting to 100% cloth production and is adding several new products. Twenty new 64-in. looms are being installed for tablecloth production.

Textiles, Inc., Gastonia, N. C., plans to spend $1,500,000 for new equipment expected to be delivered during the next three years.

Virgin Mills, Inc., Marshall, N. C., has been sold to Ellis Hosiery Mills, Inc., Philadelphia, Pa. It will continue to operate under the present management, with W. H. Smith as general manager. The plant employs 60 workers in the spinning of cotton yarns.

Wamsutta Mills, New Bedford, Mass., is reported to be negotiating with unidentified interests for sale of the mill or merger. Negotiations for merger with Utica & Mohawk Mills, Utica, N. Y., recently fell through.

Woodward, Baldwin & Co., New York, N. Y., which has controlling stock in Brandon Corp., Greenville, S. C., has been purchased by the Abney interests of Greenwood, S. C. The amount involved in the transaction was not disclosed. The Brandon Corp. operates the Brandon plant, the Poinsett plant, and the Brandon duck mill, all in Greenville; the Renfrew Bleachery in Renfrew, S. C., and a plant in Woodruff-S. C. Abney interests center in Grendel Mills, Greenwood, S. C.

Wool Mill News

Albany Felt Co., Albany, N. Y., has purchased from Textron, Inc., the blanket mill at North Monmouth, Me., which was formerly known as the Bower Mill Div. of Nashua Mfg. Co. The price is reported to be $350,000.

Ayers, Ltd., Lachute, Que., recently spent $550,000 for new machinery and equipment, and plans the expenditure of an additional $250,000 in the next few years. Heavy looms for the production of papermakers' felts will be installed in a recently completed 125 x 75 ft., two-story building.

Felt & Textiles of America, Inc., newly formed, has purchased the U. S. manufacturing rights of Feltex and other felt products from Felt & Textiles of Canada, Ltd., Victoria, B. C. The American company is seeking to raise $250,000 to establish a plant in either San Francisco or Seattle.

Laurens, S. C.—A small worsted mill will be established in a building on the old Laurens Bonded Warehouse property, and operations will begin with 40 employees.

James Lees & Sons Co., Bridgeport, Pa., plans to erect in Glasgow, Va., a one-story spinning mill and dyehouse with a total of 195,000 sq. ft. of floor space. Cost, with equipment, will be over $3,000,000.

Lincoln Spinning Co., Pawtucket, R. I., has completed the walls of a $125,000, 75 x 325 ft. mill and 30 x 45 ft. warehouse.

Macon Textiles, Inc., Macon, Ga., is being converted to the

Hosiery, too, is lastingly beautiful when finished with

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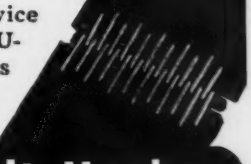

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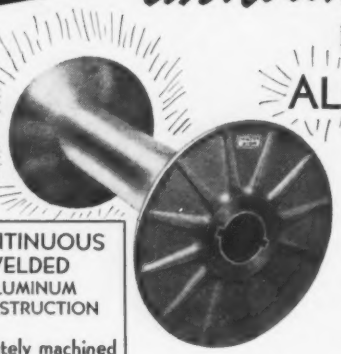

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accurately machined after welding to assure a true-running beam with a smooth, permanent finish!

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Consultants to the Textile Industry

production of fine worsteds by a new process. Wilfred Cabana is superintendent.

Mohawk Carpet Mills, Inc., Amsterdam, N. Y., submitted the highest bid for part of the New River Ordnance Plant in Pulaski, Va. The bid was $575,000 for 251 acres of the 4,000-acre plant. Mohawk plans, if awarded the plant, to install new yarn-spinning equipment to augment its Amsterdam facilities. The plant will employ 400 and 500 workers, with the possibility of later increasing this number to 2,500.

Palmetto Textile Corp., Laurens, S. C., is a new worsted mill which is expected to begin operations in the near future. R. Q. Hollingsworth, Atlanta, Ga., is president, and Ben Vromer, Atlanta, is vice president.

Pioneer Valley Textile Co., Gilbertville, Mass., has leased a floor in the Gilbert Plastics Building to make worsted and blended fabrics.

S & M Looms Co., New York, N. Y., has organized a worsted spinning company to make yarns. The new company, called Gloucester Spinning Corp., is located in Gloucester City, N. J.

Southwest Building Products Co., Dallas, Texas, has received CPA approval for construction of a building to be used for the manufacture of felt. The project will entail $2,000,000.

Textron, Inc., Manville, R. I., has installed 100 new looms of the latest fully-automatic type.

Uxbridge Worsted Co., Uxbridge, Mass., has been merged with L. Bachmann & Co., Inc., its selling agent, which owned a half-interest in the former. The company will be known as Bachmann Uxbridge Worsted Co., Inc. Uxbridge Worsted has 13 plants with over 1,000 looms.

Virginia Woolen Co., Winchester, Va., has received CPA approval for the construction of a $550,000 woolen mill in Midway, Va.

Wamesit Processing Co., Wamesit, Mass., recently organized, is now set up to process wool and wool waste for use in woolen mills.

Rayon & Silk Mill News

American Enka Corp., Asheville, N. C., has let contract to Virginia Bridge Co., Roanoke, Va., for structural-steel framing for its new plant in Morristown, Tenn.

Cannon Mills, Inc., Kannapolis, N. C., plans to establish a pilot plant to test the use of synthetic fibers. The site has not yet been selected.

Chicopee Mfg. Corp., Lumite Division, has leased part of the Bona-Allen factories in Buford, Ga., and will manufacture plastic screen cloth, starting next spring. This plant will be under the same supervision as the Chicopee plant in Cornelia, Ga.

Concordia-Gallia Corp., Throwing Division, is the new name for Modern Throwing Co. Division, Concordia-Gallia Corp. This division operates mills in Bethlehem, Pa.

E. I. du Pont de Nemours & Co. broke ground last month for its $20,000,000 nylon-yarn plant in Chattanooga, Tenn. Construction will be pushed and the first machine is scheduled to go into operation in January, 1948.

Haytock Silk Co., Easton, Pa., has been sold for a reported $31,000 to a group of stockholders.

Kanmak Mills and **Kulpmont Mfg. Co.,** Kulpmont, Pa., have under way an extensive expansion program which will provide work for an additional 150 workers and raise the total number of employees to 1,000.

Luzerne Throwing Co., Wyoming, Pa., has purchased the Skyline Farm mill about 18 miles from Scottsboro, Ala., and expects to get production under way immediately. The plant had formerly been used as a hosiery mill.

Mason Silk Co., 25 East 26th St., New York, N. Y., has received CPA approval for construction of a 40 x 80 ft., $50,000 two-story plant in Winsted, Conn.

National Rayon Corp., newly organized to open the first rayon plant in India, is sending key employees to be trained at the Utica, N. Y., plant of

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Spun Rayon
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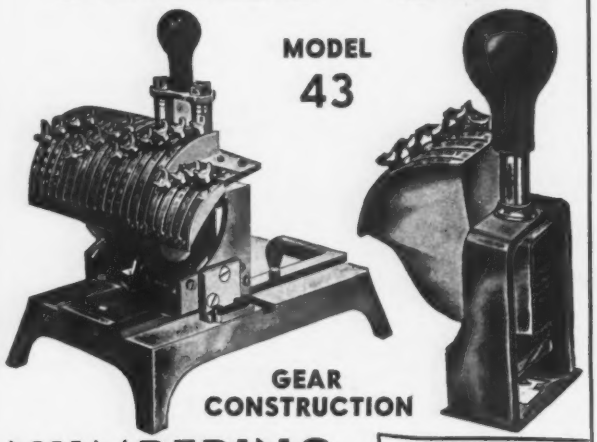
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Skenandoa Rayon Corp. The Indian plant will be built at Radar, near Bombay, and Skenandoa will supervise the designing of the plant and also its operation for eight years.

Owens-Corning Fiberglas Corp., Toledo, Ohio, will purchase from the War Assets Administration the buildings and textile machinery of the Huntingdon, Pa., plant which the company has operated since 1943.

Piedmont Silk Mill, Greensboro, N. C., have moved to a leased building in Dobson, N. C.

Verney Taunton Mills, Inc., Taunton, Mass., has received bids for construction of an industrial-waste and sewage-disposal plant. Metcalf & Eddy, Boston, Mass., are engineers.

Knitting Mill News

Alexander Knitting Co., Taylorsville, N. C., newly organized, has begun the manufacture of children's anklets.

Asheboro, N. C. — Five hosiery plants in Asheboro are spending a total of $409,000 for expansion. They are: Bossong Hosiery Mill, a $150,000, 137 x 180 ft., one-story addition; McLaurin Hosiery Mill, a $70,000, 121 x 136 ft., two-story addition; Cetwick Silk Mill, a $100,000 two-story addition; Asheboro Hosiery Mill, a $40,000 two-story addition; and McCrary Hosiery Mill, a $14,000 second-story addition.

Chadbourn Hosiery Mills, Inc., Charlotte, N. C., has plans totalling $2,000,000 for new plants and equipment, including the $750,000 plant in Wilmington, N. C.

Cohen Hosiery Co., Greensboro, N. C., plans to erect a hosiery finishing plant.

Duke Hosiery Corp., Hickory, N. C., will start construction early in 1947 of a $240,000 finishing plant which will contain 60,000 sq. ft. of floor space.

Fair-Tex Mills, Cliffside, N. J., has been organized to manufacture circular-knit fabrics for both outerwear and underwear by Reuben Berman and Louis J. Evans, both formerly of Rayon Mills, West New York, N. J.

Frederic's Knitted Fabrics, Inc., Ware, Mass., has been organized to operate a mill. Frank J. Quilitzsch is president and treasurer.

Grover Mills, Ltd., Montreal, Que., has established a new division equipped with 50 full-fashioned hosiery machines. The plant will be known as Marvin Hosiery Mills, Ltd.

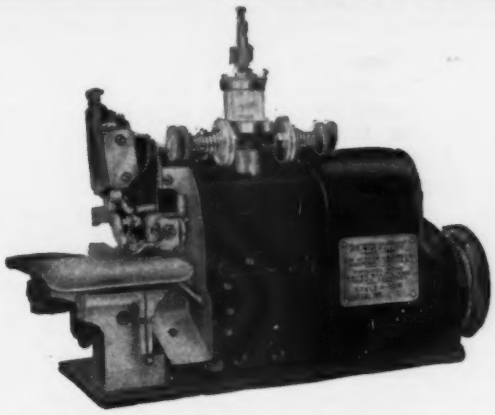
Hornwood Warp Knitting Corp., Wadesboro, N. C., has completed its plant. Four 28-gage high-speed tricot knitting machines have been installed and eight more are on the way. The one-story air-conditioned plant will ultimately house 24 machines, and production will be on rayon and combination fabrics for higher-priced dresses and lingerie. Officers are W. Bryan Moore, president; Kenneth W. Horne, vice president; and H. W. Little, secretary and treasurer.

Humboldt Full-Fashioned Hosiery Mills, Inc., Humboldt, Tenn., has broken ground for its proposed hosiery mill. Cost of the mill, originally estimated at $1,000,000, is now placed at about $2,500,000.

Julius Kayser & Co., Brooklyn, N. Y., has earmarked $1,000,000 for the establishment of a plant in the Union of South Africa.

Knit-Sox Co., Hickory, N. C., will move into the space in the Hollard Hosiery Mill to be vacated by the Duke Hosiery Corp., which is constructing a $240,000 mill. This space will be used to house the finishing department of Knit Sox. The company also plans to install 136 of the latest-type Scott & Williams knitting machines.

Lycoming Hosiery Co. and **Prestige Hosiery Co.**, Philadelphia, Pa., plan an expansion program which will exceed $2,000,000. About $1,400,000 has been set aside for the purchase of seamless and full-fashioned knitting machines. The company also plans to open two more mills, one in New Jersey and another in Pennsylvania, and is negotiating for the purchase of a women's hosiery mill in Switzerland and a men's hosiery mill in England. The company operates four mills in the North and one in the South, specializing in 51- and 54-gage full-fashioned.



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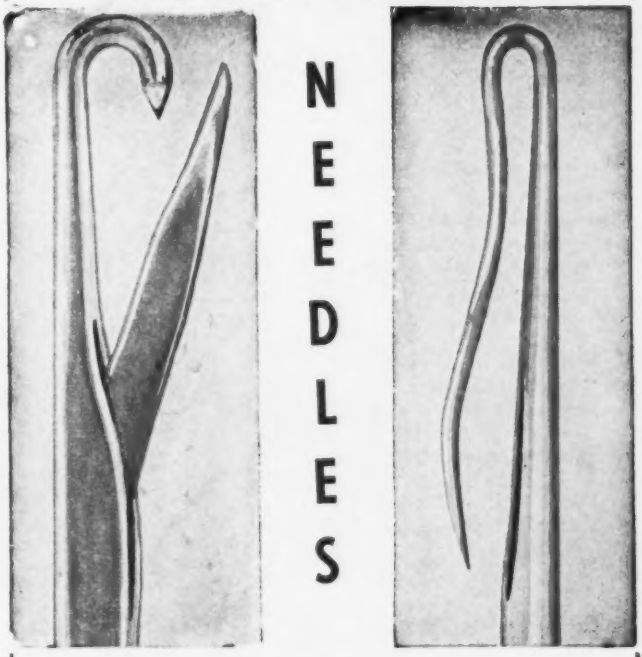

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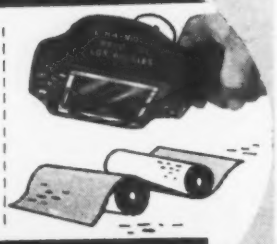

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NEWS ABOUT MILLS

Mock, Judson, Voehringer, Inc., has begun construction of a $20,000 two-story building at its plant in Greensboro, N. C., to house refrigeration and air-conditioning units.

Monarch Knitting Co., Ltd., Dunnville, Ont., has let contract to H. W. Yates Construction Co., Ltd., Hamilton, Ont., for a one-story mill to cost $100,000, including equipment. Monarch is renovating its dyehouse at an estimated cost of $20,000.

Monroe Mills, Inc., Monroeville, Ala., a subsidiary of Vanity Fair Mills, Reading, Pa., will construct a one-story building to expand the cutting and dyeing departments. Cost, including alterations to the present mill, is estimated at $250,000.

Northampton Mills, Rich Square, N. C., has begun operation of a mill making yarns for knitted apparel. M. P. Cooke, Rich Square, and William J. Miller, Ahoskie, N. C., are co-owners of the new enterprise.

Propper-McCallum Hosiery Mills, Florence, Mass., is making progress on the construction of its addition and expects to have it ready early in 1947. The addition will have 36,000 sq. ft. of floor space and will house 36 30-section knitting machines of the latest type.

Sandy Ridge Hosiery Mill, Hickory, N. C., is turning out men's anklets in the gray with 21 knitting machines. Owners are Jay Teague and Fred Stafford.

C. Schneierson & Sons, Inc., Sanford, N. C., has a new underwear manufacturing plant ready to begin operations with 50 women employees. Allister Henderson, Randleman, N. C., will be in charge.

Shelby, N. C.—Cecil Pendleton will begin operation of an underwear knitting plant early in 1947. A building to house the plant is under construction.

Vogue Knit of Philadelphia, Inc., Philadelphia, Pa., has moved to larger quarters at 1316 Arch St. in that city.

Waldensian Hosiery Mills and **Pilot Full-fashioned Mills**, Valdese, N. C., will each build a hosiery mill in Lenoir, N. C. The former will build a seamless plant, and the latter a full-fashioned plant.

Walsey, Ltd., Leicester, England, will open a 23,000 sq. ft. plant in Quebec next July to manufacture wool hosiery and sweaters.

Dyeing & Finishing Plant News

California Piece Dye Works, Los Angeles, Cal., is expanding capacity by adding multi-color equipment, installation of which has been rushed to permit operation this month. This equipment will augment hand-screening processes now being used.

Castle Creek Prints, Inc., Washington, N. J., has opened a $250,000 plant.

Columbia Piece Dye Works, Paterson, N. J., has been sold to Pacific Property, Inc., for $235,000.

Crawford Mfg. Co., Richmond, Va., which manufactures seat covers, will install treating and finishing machinery for cotton goods.

Donald Craftex Printers, Inc., and **Krant Dyeing & Finishing Co.**, both of Paterson, N. J., are reported to have been purchased by Michael Clemons, who owns Raytex Printers and Raytex Dyers, Inc., also of Paterson.

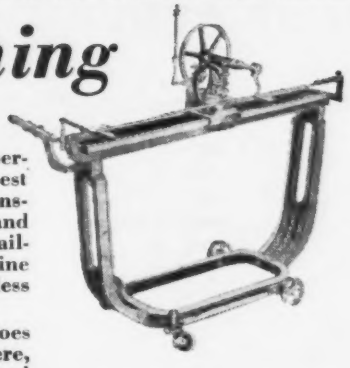
Hickory Dyeing & Winding Co., Hickory, N. C., is doubling floor space and production. Over 100 machines are now in use, and this number will be increased.

Newport Finishing Co., Fall River, Mass., has purchased the No. 2 bleach house and the boiler house of the former Stevens Mfg. Co.

Rock Falls Textile Printing Corp., Middletown, Conn., has filed organization papers listing the following officers: Ernest A. Gsell, president, East Orange, N. J.; Ernest J. Gsell, vice president; Joseph Newman, treasurer, Brooklyn, N. Y.; and Tillio Newman, secretary. The company has started operations in a plant on Middlefield Street.

Textileather Corp., Toledo, Ohio, and **Pantasote Corp.**, Passaic, N. J., have terminated permanently the merger plans announced in August, 1946. Both companies will continue independent operations.

Perfect Seams and Finishing



EVEN when operated by the lowest paid help, the Dinsmore No. 1 Hand Power Portable Railway sewing machine provides faultless seams.

This machine does its work anywhere, being easily moved about at will. It is an efficient practical means of joining the ends of cloth for its passage through such finishing operations as shearing, dyeing, printing, etc.

These machines will sew wet or dry, thick or thin goods, and are built in different lengths for any width of cloth.

The seam can be sewed very near the edge and is easily removable. *The edges come out all even.*

Write for complete catalog.

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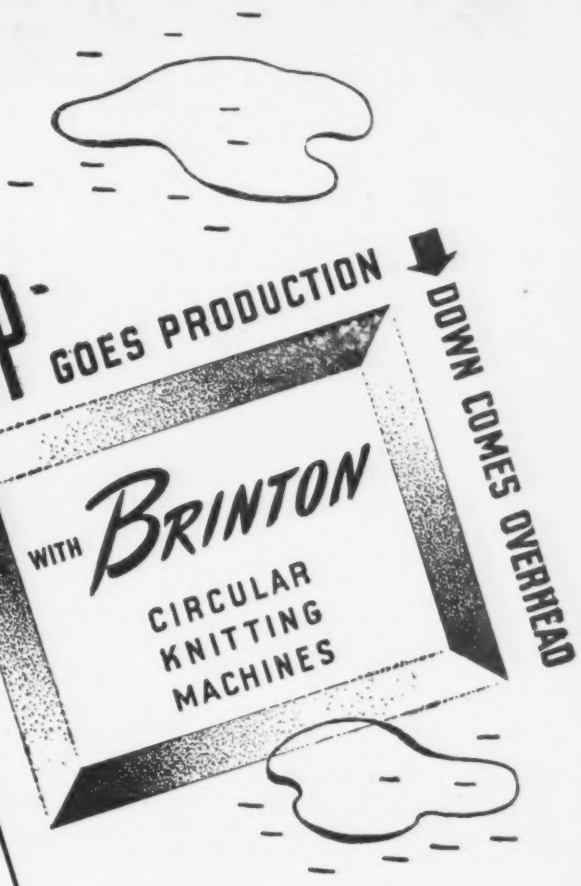

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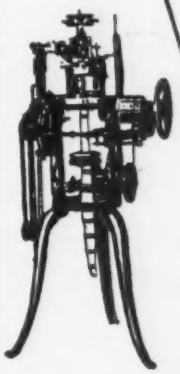

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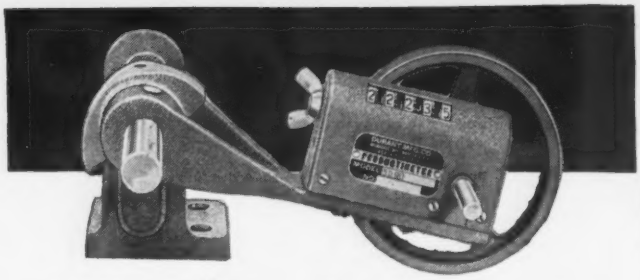

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for every application!
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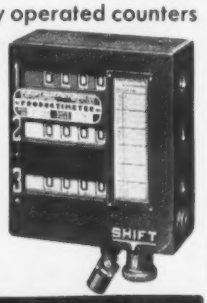
offer a comprehensive line of counting devices, comprising three, two, and single shift Pick Counters . . . and yardage, revolution, predetermined and electrically operated counters . . . Accurate, sturdy counters, built to give the kind of performance the textile industry demands.



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Above: Model 5-D-9, small yardage unit.
Right: Model 4-PC-3, new 3-shift Loom Pick Counter.

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SPECIALIZING IN TEXTILES FOR MORE THAN A QUARTER OF A CENTURY
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NEWS ABOUT *Men*

C. W. McCrary is now president of McCrary Hosiery Mill, Inc., Asheboro, and his former post of treasurer is filled by J. F. McCrary. T. Henry Redding was elected secretary. J. F. McCrary is president of Sapona Mfg. Co., Cedar Falls, N. C., and his former post of secretary was filled by C. W. McCrary. L. F. McCrary is treasurer of Acme Hosiery Mills, Inc., Asheboro, and his former post of secretary was taken over by C. W. McCrary. These changes follow the recent death of D. B. McCrary.

William J. Erwin has become chief executive officer in charge of Republic Cotton Mills, Great Falls, S. C., a division of J. P. Stevens & Co., Inc. He succeeds George M. Wright, who retired on Jan. 1. Previously he had been assistant executive officer.

John E. Bassill, formerly president of Tubize Rayon Corp. and more recently a vice president and director of Celanese Corp. of America, will become director of North American Rayon Corp. and American Bemberg Corp., both of Elizabethton, Tenn. He will join the executive staffs of these firms on Mar. 1, and it is reported that he will be elected president of both firms in May, 1947. S. R. Fuller, Jr., who is now president, will become chairman of the board.

E. W. McMillan, vice president and general manager of Richmond Hosiery Mills, Rossville, Ga., was elected president and general manager of the company, succeeding the late Garnett Andrews, Sr., as president. Other promotions included: Vance King, former secretary-treasurer, to vice president and treasurer; Garnett Andrews, Jr., assistant secretary, to secretary; and H. E. Cooper, assistant treasurer, to assistant secretary and assistant treasurer.

Paolino Gerli has been elected president of the newly-formed Blue Ridge Yarn Mills, Inc., Pendleton, S. C. Other officers elected include George Asnip, vice president, D. J. R. Suffredini, treasurer, and J. W. McKinney, secretary. Furman M. Barton will continue as superintendent. The company is a unit of LaFrance Industries, Philadelphia, Pa.

Kenneth N. Merrill has been elected vice president of William Whitman Co., Inc., New York. He is in charge of the company's yarn division.

Dr. Milton Harris, head of the research laboratories of Milton Harris Associates, Washington, D. C., has been elected chairman of the Division of Cellulose Chemistry of the American Chemical Society.

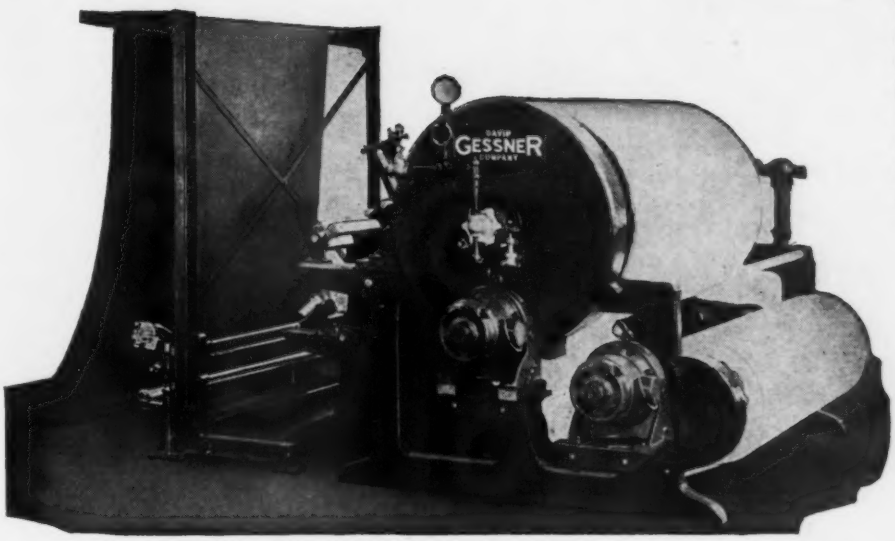
John G. Boyle, Eagle & Phenix Mills, has been elected president of the Atlanta Textile Club. Other officers elected include Ansel B. Cook, Callaway Mills, Inc., vice president; Eugene G. Cogburn, Dan River Mills, Inc., secretary; Robert de Castro, Joshua L. Baily & Co., treasurer. Steering committee members elected include Donald W. Hawley, Wellington Sears Co.; William C. Horton, Jr., Patent Button Co.; William H. Morrison, Turner Halsey Co.

William H. Suttenfield, Jr., Charlotte, N. C., will operate a weaving plant in Tryon, N. C., in the buildings formerly occupied by Tryon Processing Co.

J. G. Pottinger, president, treasurer, and general manager of Everlastic, Inc., Chelsea, Mass., until it was purchased by Stark Bros. Ribbon Corp., Greensboro, N. C., will continue as executive vice president and general manager. Operating control will be under J. W. Stark, president and treasurer.

E. D. Gordon was recently named president of Celtic Knitting Co., Ltd., Montreal, Que., succeeding his father, the late E. Percy Gordon. Another presidency held by the late Mr. Gordon was filled when A. S. Howatson was made president

The new Gessner Open Decating Machine Simplifies Operations and Cuts Costs



The new Gessner Open Decating Machine embodies important new time and money-saving principles. In fact, Gessner Open Decating has become a one man operation in an ever-growing number of mills. Gessner improvements include automatic tension controls for the decating apron, which prevent apron slap even at high speeds and which greatly lengthen the life of the apron. Mechanisms control the firmness of the decating roll without added tension on the apron. Individual motors drive each cylinder. There are no clutches. The Gessner Open Decating Machine shown here is equipped with a platform and guides to guide the cloth as it is loaded into the machine.

DAVID GESSNER CO.

IMPROVED CLOTH FINISHING MACHINERY

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WHICH HAS 13 ADVANTAGES OVER RING SPINNING FRAMES

AS FOLLOWS: **1.** Up to 50% saving in labor. **2.** Up to 65% saving in H.P. per equal number of spindles. **3.** Up to 50% saving in floor space per equal number of spindles. **4.** Up to 67% saving in investment per comparable capacity. **5.** The J & B Mule will handle a much coarser roving than a frame, thereby increasing production at the card by 15% to 20%. **6.** The J & B Mule produces a true woolen yarn — superior in strength, elasticity, loftiness, roundness and uniformity of size and twist to that produced by frame spinning. **7.** It permits inspection of the thread. **8.** It will successfully spin short staple roving which will not hold together on a frame. **9.** Spindle for spindle, it will produce as much yarn as a frame. **10.** Its cost of upkeep is exceptionally low. **11.** The J & B filling package does not require rewinding for an automatic loom. **12.** Changes for spinning different types of yarn on the J & B Mule are easily and quickly made. **13.** Mule bobbins cost less than frame bobbins.

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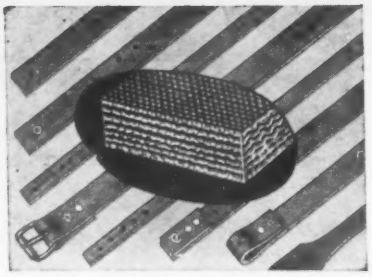

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TEXTILE CRAYONS
Positive Identification
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TEXTILE MILLS • RAYON PLANTS • KNITTING MILLS • DYE HOUSES
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WATER • WASTE DISPOSAL • APPRAISALS • PLANS • REPORTS

NEWS ABOUT MEN

of Nordic Hosiery, Ltd., Granby Que.

Dr. B. E. Gee has succeeded the late W. C. Cleveland as chairman of the board of Southern Weaving Co., Greenville, S. C.

Horace Woodbury, manufacturing agent of Wamsutta Mills, New Bedford, Mass., **Donald F. Horne,** sales manager, and **Walter S. McPhail,** general superintendent, were elected to the board of directors. It is reported that Mr. Woodbury and Mr. Horne will become vice presidents.

C. M. Black has succeeded the late P. L. Borden as secretary and vice president of Borden Mfg. Co., Goldsboro, N. C. **W. A. J. Peacock** has been appointed superintendent, succeeding Mr. Black.

C. A. Denson has been elected vice president of Stonecutter Mills Corp., Rutherfordton, N. C.

Arthur T. Snyder, formerly with E. I. du Pont de Nemours & Co., has been named assistant director of apparel-fabric development at Burlington Mills Corp., Greensboro, N. C.

Ben M. Seiger has been named director of marketing research by **Royal Little,** president, Textron, Inc., New York. Mr. Seiger has been associated with Textron since November, 1945, acting as the Washington representative of the company.

Arthur B. Studley, assistant manager of the Boston district office of SKF Industries, Inc., has been elected chairman of the Textile Division of the American Society of Mechanical Engineers. He succeeds **Carl D. Brown,** Draper Corp.

Charles William Pennington has been appointed sales manager of clothing and coated fabrics for United States Rubber Co., New York. Mr. Pennington, formerly sales manager of the Pacific Coast division, succeeds **William F. Cairns,** who retires after 42 years of continuous service with the company. Mr. Pennington's headquarters will be in the Mishawaka, Ind., plant.

George M. Schroder, a research fellow of the Industrial Research Institute of University of Chattanooga, has joined the H. H. Frede Co., Chattanooga, to direct research on the process for bonding cotton fibers which was developed under his direction at the Industrial Research Institute.

Edgar L. Schlesinger, of Cohn-Hall-Marx Co., New York, spoke before the students of a plastics course at New York University on Jan. 13. The course is sponsored by the Society of the Plastics Industries. Mr. Schlesinger described the plastics which are extruded in textile filament form and those which are used as fabric finishes. He stressed the fact that there is considerable common ground between the textile and the plastics industries.

Rolf Wallin has joined the staff of the Institute of Textile Technology, Charlottesville, Va., to work on engineering and design problems of textile machinery.

Dr. Myril C. Shaw has been named research specialist by the Asbestos Textile Institute, Philadelphia, Pa., to head the activities of its recently-established fellowship at Rutgers University.

John Barritt, head of the Department of Chemical Technology at the Wool Industries Research Association has been named honorary secretary of the Society of Dyers & Colourists, Bradford, England, succeeding the late J. S. Ridsdale.

Fred C. Scribner, Jr., has been elected treasurer, general counsel, and director of Bates Mfg. Co., Lewiston, Me.

W. Dewey Davis has been elected a director and vice president of National Mallison Fabrics Corp., New York, N. Y., succeeding **Paolino Gerli,** who resigned.

Ralph A. White, formerly with Conover Knitting Co., Conover, N. C., has become production superintendent of Vogue Hosiery Mills, Inc., Oxford, N. C.

Eli J. Paris has resigned from Lycoming Hosiery Co., and Prestige Hosiery Co., Philadelphia, Pa., where he was general assistant to **Sam L. Burd,** president. It is reported that he plans to open his own mill to manufacture women's full-fashioned hosiery.

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OUTERWEAR
HOSIERY
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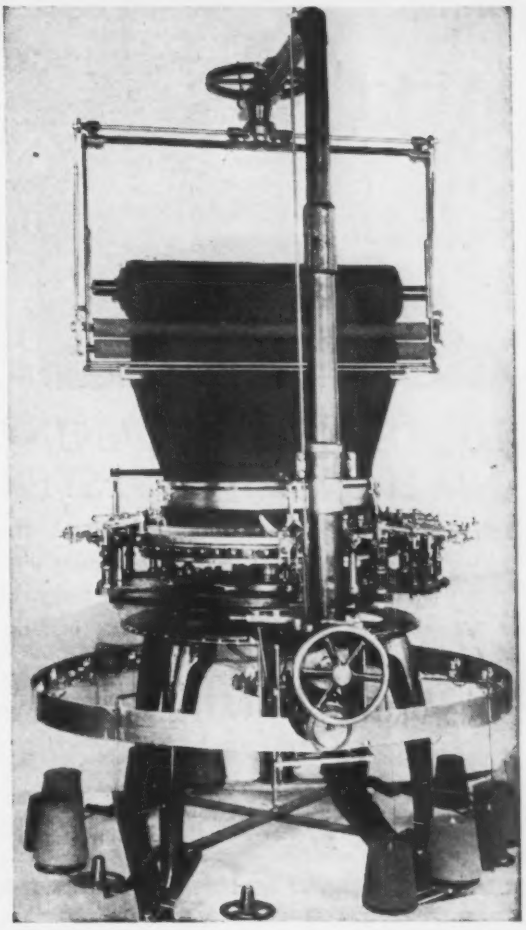

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KNITTING MACHINE

1. **50% reduction in cost of production on most coarse or fine fabrics.**
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3. **Produces a superior quality of knitted fabric, getting the most out of every grade and size of yarn.**
4. **Basis of all statements is an actual mill performance and production on S-1 models now installed.**

All reasons that will save you money! The new S-1 single head spring needle machine is especially designed for overcoating materials. At the same time, any fabric can be knit on it that is knit on the older type spring needle table. Production is appoximately 100 yards per 8 hour day, using 6 feeds.

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The improved TYPE K stripper; Automatic Bobbin Box Hoist and Conveyor Elevator—a modern, compact system for increasing the efficiency and lowering the cost of bobbin cleaning and handling.

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E. W. S. Jasper, Inc., Elizabeth, N. J.—Penn., N. J. and N. Y.
W. J. Westaway Co., Ltd.....Hamilton and Montreal, Canada
Geo. Thomas & Co.....Manchester, England.—European Agt.

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JOSEPH P. CORREIA, *President*
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Reneedlers of half laps and top combs for cotton, wool (French System) and Silk. Manufacturers of Automatic Reneedling Machines. Needling Books (or Racks) recut. Reconditioned half laps for Whitin Combers for sale, Models C & D, and Nasmith half laps 12" and 13½" long.

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GEARS TO ORDER

Spiral and helical gears; special couplings, bushings and collars; pins, pulleys and rollers. Made to your specifications—*promptly.*

KELLEY GEAR & TOOL CO.
Bristol, Tennessee

NEWS ABOUT MEN

Fred T. Lawson succeeds **Aaron Quinn** as plant manager of Cleveland Cloth Mills, Shelby, N. C. **Howard Rollins** and **James W. Corbett** will be superintendent and office manager, respectively. **J. E. Bell** will direct research laboratories maintained in Shelby by J. P. Stevens & Co., of which Cleveland Cloth Mills is a subsidiary.

William Herrick is the new resident manager of Pendleton Woolen Mills, Pendleton, Ore. He was formerly with Miltonia Mills, Milton Mills, N. H.

Leon E. Moody, formerly with American Cyanamid Co., has become assistant plant manager of F. P. Maupai Dyeing Co., West New York, N. J.

Albert K. Lippman has become controller of Native Laces & Textiles, Inc., New York, N. Y.

Robert F. Jessen, textile technologist of Callaway Institute, Inc., LaGrange, Ga., has resigned and will join Springs Mills, Lancaster, S. C., on Jan. 1. He has been succeeded at Callaway Institute by **Bradley H. Nickles.**

K. H. Boydell, formerly group superintendent of the Central Falls, Newton, Vamoco, Dutchess, and Puritan plants of Burlington Mills Corp., has become group superintendent of the company's filament plants in the Burlington, N. C., area. **W. I. Spencer** will take over Mr. Boydell's former duties and will also have 12 plants in North Carolina under his supervision.

W. F. Davis has been named manager of Palmetto Textile Corp., Laurens, S. C.

E. D. Newton, superintendent of Highland Park Mfg. Co., Rock Hill, S. C., has resigned to become manager of Gastonia Weaving Co., Gastonia, N. C. His former position was taken over by **W. B. Shannon,** who was transferred from the company's No. 2 plant in Charlotte, N. C.

Thomas Roberts has succeeded **Ladd W. Hamrick** as office manager of Phenix Mills, King's Mountain, N. C.

D. M. Williams has resigned as superintendent of the Adrian and Madora plants of American Yarn & Processing Co., Mt. Holly, N. C., to become resident manager for Leading Embroidery Co., Cowpens, S. C.

E. K. Pierson has been named managing director of the Philadelphia Textile Manufacturer's Association, succeeding the late C. Marlin Bell. Mr. Pierson has been with the association over ten years, part of which time he was the assistant to Mr. Bell.

Richard Schulman, has been named comptroller of Roosevelt Mills, Inc., Manchester, Conn.

P. W. Beggs, superintendent of Goodyear Tire & Rubber Co.'s textile mill in Sao Paulo, Brazil, has arrived in the United States on home leave after six years overseas. Prior to the Brazil assignment he was for 11 years superintendent of the Goodyear tire fabric mill in Los Angeles, Calif.

Thomas J. Harper, purchasing agent of Stonewall Cotton Mills, Stonewall, Miss., was guest of honor at a celebration in Stonewall recently which marked his 50th anniversary as purchasing agent of the mills.

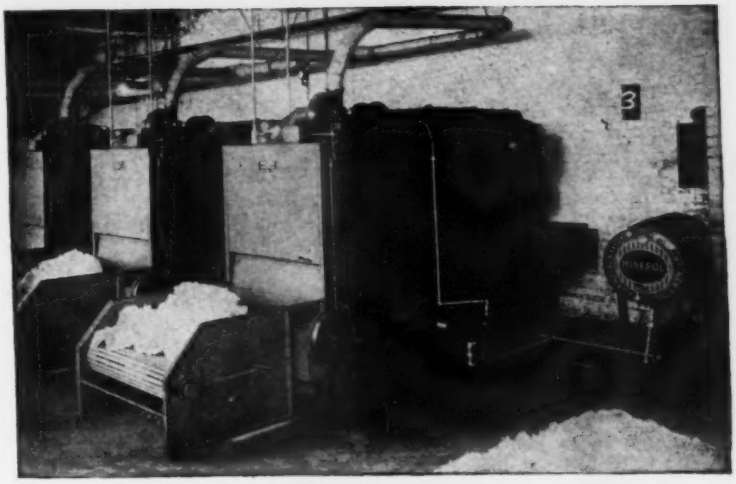
William N. Chace has joined Greenwood Mills, Inc., New York, as merchandise executive. He will be engaged principally in distributing the rayon production of Mathews Mill, Greenwood, S. C. Mr. Chace recently resigned from Burlington Mills Corp., and was formerly manager of rayon staple sales for American Viscose Corp.

W. E. Vecsey, for the last nine years superintendent and manager of the Aldora mill, Barnesville, Ga., subsidiary of General Tire & Rubber Co., was honored at a farewell dinner by office employees and overseers. He is being transferred to the company's Akron office.

Edward Giard has been appointed superintendent of the converting division, Associated Textiles of Canada, Ltd., Louiseville, P. Q.

John MacAulay, Sr., of Piedmont, Ala., has retired as foreman of spinning at No. 2 mill of Standard-Coosa-Thatcher Co.'s Coosa Plant at Piedmont after more than 51 years service with that company.

MINEROL FIRST and FOREMOST CONDITIONING AGENT for Textile Fibres.



● **MINEROL** is a prepared agent for conditioning textile fibres..a systematic Process of Spraying Natural and Dyed Raw Stock. • **MINEROL** helps to separate long fibres from the short. It saves *good fibres* and prevents waste. It makes fibres more supple..more pliable.• **MINEROL** provides *control* of conditions caused by static electricity. It protects the cards and preserves the wire. • **MINEROL** prevents Dust and Fly..safeguarding health and insuring better working conditions.• **MINEROL**..as a conditioner is more urgently in demand thru the increased use of staple Cut Rayon and its varied combinations with cotton, wool and other fibres.

BRETON MINEROL PROCESS PATENTED

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Originators of the BRETON MINEROL PROCESS for CONDITIONING FIBRE

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W. M. DYNES, West Springfield, Mass.
S. T. DOUGLAS, JR., Westwood, Mass.

SOUTHERN REPRESENTATIVES

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NO POINTS TO BREAK OR MAR.
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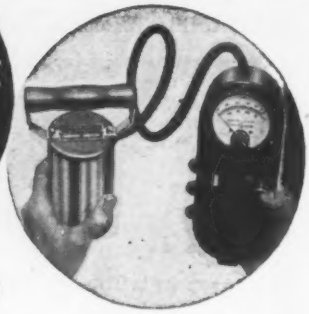

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NEWS ABOUT MEN

Samuel F. Winspar, formerly manager of Seminole Mills, Clearwater, S. C., has become manager of Sudantex of Telares de Guanana and Sudantex of Maracay, Venezuela. Both are plants of United Merchants & Manufacturers, New York, N. Y.

Charles F. Bopp has been appointed purchasing agent of Pendleton Mfg. Co., LaFrance, S. C., and **William F. Lanier** is his assistant.

A. W. Babbitt has been appointed general manager of Lawrence Products Co. and Benjamin Kahn Ribbon Mills Co., both of Attalla, Ala.

Charles J. Hess, who has spent many years in the tricot-fabric field, has joined Native Laces & Textiles, Inc., and will be in charge of technical work on tricot fabrics. He will spend most of his time at Natona Mills, the company's Wilkes-Barre, Pa., plant. **O. W. Hampton,** head of the knit-goods division, which includes tricot fabrics, now will spend most of his time in New York.

Royal S. Hayward has been named manager of the Easthampton, Mass., works of Textron, Inc., succeeding **Richard Storey,** who resigned.

J. W. Beveridge, recently resigned as rayon administrator in the Wartime Prices & Trades Board, Montreal, Que., to join M. E. Binz & Co., Montreal, as general office manager.

Henry Suber has succeeded **Jesse T. Crawford** as superintendent of Aragon-Baldwin Cotton Mills, Whitmire, S. C. Mr. Crawford resigned to become general manager of the three plants of Republic Cotton Mills in Great Falls, S. C. He will take over on Jan. 1.

J. A. Boyce has become assistant superintendent of Lydia Cotton Mills, Clinton, S. C., of which his father is general superintendent.

W. Wilson Aultman, technical superintendent of the Dalton and Tallapoosa, Ga., plants of American Thread Co., has resigned to become superintendent of Newberry Textile Mills, Newberry, S. C.

W. O. Reed has been appointed overseer of carding at Fitzgerald Mills, Fitzgerald, Ga.

Obituary

James D. Hunter, 85, president of James Hunter Machine Co., North Adams, Mass., died in that city Jan. 7. He was graduated in mechanical engineering from Worcester Polytechnic Institute in 1882, and immediately entered the employ of James Hunter & Son, machinery house founded 100 years ago by his grandfather. The present organization was incorporated in 1891, and Mr. Hunter became vice-president. He was elected president in 1919.

Henry Pope, Sr., 78, chairman of the board of Bear Brand Hosiery Co., Chicago, Ill., and President of Paramount Textile Machinery Co., Kankakee, Ill., died Jan. 7. He began work as salesman for the Franz-Pope Knitting Machine Co. in which his father had an interest. In 1893, he founded the Paramount Knitting Co. which in 1913 was reorganized as the Bear Brand Hosiery Co. In that same year he founded the Paramount Textile Machinery Co. In 1923, he established the Neumode Hosiery, with retail stores through the Middle West. With the late President Franklin Roosevelt, he organized the Warm Springs, Ga., Foundation in 1927.

Charles A. Sweet, 60, chairman of the finance committee of Iselin-Jefferson Co., New York, died Jan. 11. He was an officer of several mills and textile associations, and had been formerly for some years president of Wellington Sears Co.

Thomas Manly Norris, 70, a prominent figure in South Carolina textile circles, died recently in Greenville, S. C. He was associated with the Norris Cotton Mills, Cateechee, S. C., where he served as president for a number of years. He was also a director of C.T.I.

Hubert D. Kernan, 64, only surviving founder of Skenandoa Rayon Corp., Utica, N. Y., died Nov. 8. Mr. Kernan had been executive vice president

VICTOR MILL STARCH

Always A Winner!

Distributed by

CLAUDE B. ILER
Southern Manager
Greenville, South Carolina

L. J. CASTILE
Charlotte 3, North Carolina

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THE KEEVER STARCH CO.
COLUMBUS 15, OHIO

The
WEAVER'S FRIEND

- ☆ Penetrates Thoroughly
- ☆ Dependable
- ☆ Carries Weight Into the Fabric
- ☆ Always Uniform
- ☆ Boils Thin

ROME SOAP MFG. CO.

MANUFACTURERS OF

Textile, Laundry

and

Special Soaps

ROME, N. Y.

WRITE US FOR SAMPLES AND QUOTATIONS

D. R. KENYON & SON

RARITAN, N. J.

MACHINERY
TENTERING
and DRYING

STANDARD
Silicates of Soda

ALKALI

Grades to suit your needs—all uniformly high in quality...

DIAMOND ALKALI COMPANY
STANDARD SILICATE DIVISION
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AMERICAN

. . . more economical to use because . . . . it runs more efficiently, producing a finer quality product that can be sold easier and more profitably

AMERICAN
YARN AND PROCESSING CO

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Empire State Bldg.

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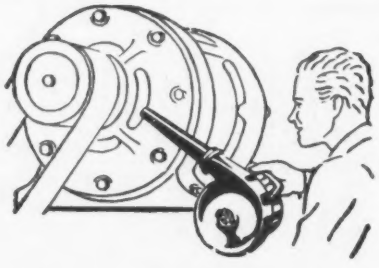
Blow out Dust— Keep Motors and Machinery Clean with



TORNADO Portable Electric Blowers

PREVENT motor burnouts, overheating and shutdowns. Keep motors and machinery clean. Blow out dust, dirt, lint, chips, etc. with the powerful, portable TORNADO Electric Blower. Quickly pays for itself in cutting repair and replacement costs.

Write for details and FREE Trial Offer

BREUER ELECTRIC MFG. CO. 5086 Ravenswood Ave. CHICAGO 40, ILLINOIS

"YOU CAN COUNT ON WAK COUNTERS"

They are
RUGGED
ACCURATE
DEPENDABLE

We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.

Write—Phone—Wire

WAK INDUSTRIES CHARLOTTE, N. C.

of the Skenandoa company for the last ten years and before that was vice president and treasurer in charge of sales with headquarters in New York. He retired from an active part in the company's management last April. He was a director of the company's predecessor, Skenandoa Cotton Co., with which he became associated 40 years ago.

Moses Ewing, 85, one of the founders of the old Ewing Thomas Converting Co., Philadelphia, died recently. With the late Harry Thomas, Mr. Ewing founded the company in 1916 and until 1930 was treasurer and general manager. At that time it was reorganized as the Ewing Thomas Corp. He then became president and general manager and held that position until he retired in 1936.

P. P. Murphy, 68, president of United Spinners Corp., Lowell, N. C., died Dec. 11. Mr. Murphy went to Lowell in 1904 as superintendent of Lowell Cotton Mill No. 1. From 1906 to 1939, he was superintendent of Peerless Spinning Co. at Lowell, and from 1939 until his death he was president of United Spinners Corp.

George Herbert Smith, prominent in the textile industry through his connection with the Smith Mfg., Co., Toronto, Ont., for 60 years and its president for the last 40, died recently. The firm was founded by Mr. Smith's father and his two sons are at present active in the company.

Hugo R. A. Schumann, 77, president of Reading Maid Hosiery Mills, Inc., Iris Hosiery Co., and Aeronautical Supplies, Inc., all of Reading, Pa., died Dec. 15.

Robert Anderson Watson, 69, president of the Charlottesville Woolen Mills, Charlottesville, Va., and an officer and director in many local business enterprises, died recently.

Joseph R. Loper, 57, owner of Royal Woolen Mills, Sabattus, Me., for 12 years, died recently.

Donald R. Green, 52, treasurer and co-owner of Holyoke Worsted Co., Holyoke, Mass., died recently in Northampton, Mass.

Jacques Levy, 67, vice president of Rugby Knitting Mills for 16 years, died in Buffalo recently.

Cullen M. Bell, 63, manager of Philadelphia Textile Manufacturers Association for more than 20 years, died Dec. 10. Mr. Bell had been with the association for 26 years and was recognized as an authority on the industry's business affairs.

Albert Magagna, 59, textile executive, died Dec. 14 at his home in Wyoming, Pa. For many years Mr. Magagna was general manager of the Anthracite Silk Throwing Co., Wyoming. He resigned to establish the Textile Throwing Co. in Duryea, with his brother, Peter, now a silk jobber operating out of New York.

Frederick A. Worthington, 82, died Dec. 1. He was treasurer of Agawam Woolen Co., Inc., Agawam, Mass.

Ralph L. Wilson, 76, of Rome, Ga., retired textile official and banker, died recently. He was associated with Massachusetts Cotton Mill, which later became Pepperell Mfg. Co., in Lindale; was superintendent of Floyd Cotton Mills, Rome, and was later affiliated with Towers & Sullivan Mfg. Co. He retired in 1942.

Fred A. Ellenwood, 70, one-time president of National Wool Growers Association, died Dec. 13 at Red Bluff, Calif.

E. H. Jeffords, 71, recent director of Raybestos-Manhattan, Inc., and general manager of General Asbestos & Rubber Division, North Charleston, S. C., died Dec. 12.

Alfred S. Paine, 68, former manager of four Kendall mills in the Carolinas, died at Spartanburg, S. C. recently.

A. Keeney Clark, 72, veteran hosiery salesman, died Dec. 5, at Yonkers, N. Y. He had recently operated a hosiery business of his own. He had been with Harrington & Waring, New York.

Arthur W. Wilford, 61, superintendent of Donahue Corp. of Canada, Ltd., St. Hyacinthe, Que., died recently. He went to St. Hyacinthe in 1930 from Chelsea ,Mass., to put the Donahue plant into operation.

Henry C. Robbins, 77, retired superintendent of Hadley-Peoples Mfg. Co., Siler City, N. C., died Dec. 6.

PENICK & FORD, LTD., INCORPORATED

CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

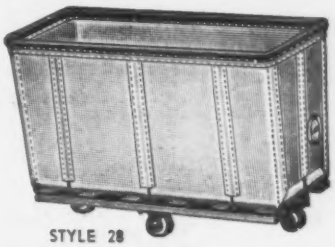
NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA

SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John: Let's order new Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures.

Understand protects yarns like standard starches yet desizes completely in soap and water.

Jim



STYLE 28
ROVING TRUCK

LANE
TRUCKS
CANVAS

For the well equipped mill

W. T. LANE & BROS., INC.
Manufacturers, Poughkeepsie, N. Y.

WE'VE LEARNED A LOT IN OUR 50 YEARS

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell Service, which includes Stainless Steel-lined tanks and tubs — round, rectangular and special shapes.

Catalog on request.

W. E. CALDWELL CO.
INCORPORATED
2060 Brook St. Louisville, Ky.

Caldwell TANKS and TOWERS

ALL STEEL ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.
ECONOMY BALER CO., DEPT. J ANN ARBOR, MICH., U.S.A.
REPRESENTATIVES:
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Boston Office: 601 Atlantic Ave.
Other Sales and Service Branches in most Important Cities.

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60 cents per line, minimum 4 lines. To figure advance payment count 6 average words as a line.

POSITIONS WANTED (full or part-time salaried employment only), ½ above rates.

PROPOSALS, 50 cents a line an insertion.

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The advertising rate is $6.75 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

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NEW ADVERTISEMENTS received by 10 A. M. February 7th will appear in the February issue, subject to limitation of space available

WANTED

FULL-FASHIONED ERECTOR and FINISHER

Capable erector and finisher to regauge HSL machines. Excellent pay in pleasant Southern mill. Sizeable program available and when job is completed a permanent position would be available for a good man. Write giving full details of experience.

P-960, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Weaving Mill Assistant Superintendent

Young Textile School Graduate for a small weaving organization, North Carolina. Practical weaving and preparatory experience essential. Fine opportunity for a capable young man.

P-990, Textile World
330 West 42nd St., New York 18, N. Y.

POSITIONS VACANT

HAND LOOM Operator to set up, install, and instruct in operation of hand looms. State salary and experience. Ainslie Knitting Machine Co., 750 Grand St., Brooklyn, N. Y.

WANTED: We have an opening for an experienced Silk and Rayon Weaving and Throwing Executive, who would be capable of taking charge of a plant in the Far East. An Excellent opportunity for a man with the proper qualifications, both mechanical as well as executive. Morris Spelzman Co., 508 W. 5th St., Charlotte, N. C. or 120 Liberty Street, New York City.

WANTED: Forman-Dyer for Dye House producing Viscose and Cotton and Viscose and Acetate Piece Goods. Must be rapid and accurate, color matcher and possess first-rate Planning and Organization Ability. Reply Stating Education, Experience and Salary Desired. P-970, Textile World, 330 W. 42nd St., New York 18, N. Y.

MEN experienced on inside work. Double Woven Machines. National Firm of long established record in the knitting field. Splendid opportunity for advancement for the men who qualify. P-971, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED: Safety Engineer experienced in Cotton Textile Manufacturing. Location Southeast. Our employees notified of this ad. P-972, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

TEXTILE SCHOOL Graduate engineering ability and handling personnel helpful for progressive manufacturing concern will be trained for executive position. Age 25 to 35. Write all particulars to P-973, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED: Worsted Spinner, (Bradford System) To do Commission Spinning on 2/18's Count From 60's Quality Tops In Oil. Replies confidential. P-974, Textile World, 330 W. 42nd St., New York 18, N. Y.

POSITIONS VACANT

JIG DYER Experienced Acetate Rayon and Vats. Metropolitan Area. State age, experience, salary expected. P-975, Textile World, 330 W. 42nd St., New York 18, N. Y.

POSITIONS WANTED

THROWSTER, Hosiery Tram Nylon, Silk, Rayon, experienced on all makes of throwing machinery and method of modern throwing. At present employed with large hosiery mill as throwster but desire to make a change. PW-937, Textile World, 330 W. 42nd St., New York 18, N. Y.

KNITTER MECHANIC, over 20 years experience on circular, rib and jersey machines. PW-989, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE CHEMIST Graduate, 44, married, with family, 15 years experience in Dyeing, Printing and Finishing. Able to take full charge of mill operations and laboratory. Desire responsible position with progressive firm. PW-988, Textile World, 330 W. 42nd St., New York 18, N. Y.

COST AND Financial Analyst: 5 years government experience in cost and financial analysis in machinery and allied equipment industries, writing ability; B.A. in economics, accounting, statistics; under 30, references. PW-976, Textile World, 330 W. 42nd St., New York 18, N. Y.

MASTER DYER with 20 years qualified practical experience dyeing and matching shades efficiently on practically all fibres and fabrics processed in the textile field from raw stock up to piece goods. PW-977, Textile World, 330 W. 42nd St. New York 18, N. Y.

(Continued on opposite page)

MEN WANTED

POSITIONS OPEN

General Superintendent 2 woolen mills
Print works superintendent, also colorist
Superintendent, also assistant superintendent worsted dress goods mills
Manager large cutting and finishing plant, excellent salary
Worsted yarn supervisor, preferably one with textile school education
Cotton mill superintendent (foreign)
Braided rug superintendent
Superintendents for mills making outerwear, underwear and sweaters
Tie fabric superintendent
Assistant general manager textile mill $5,000 up
Night superintendent worsted carding, combing, scouring
Chemist with Ph. D. degree
Safety Director large cotton mill
Woolen designer, women's fabrics for styling position
Assistant works manager cutting, stitching, finishing rayon underwear plant
Designer and overseer weaving for plush
Two woolen mill superintendents
Industrial engineer experienced in needle trades
Velvet dyer
Master mechanic and plant engineer
Chemists and chemical engineers
Boss knitters
Boss weavers, woolen and rayon mills
Time study men
Boss finishers woven and knitted woolen goods
Boss carders (woolen and cotton)
Foreman silk throwing
Boss finisher sweaters
Boss dyer acetate and rayon piece goods
Boss spinners mules and frames
Overseer worsted carding and combing
Cotton cloth room overseer
Designing engineers and draftsmen
Textile school graduates
Tompkins machine fixers
Garnett fixer—foreman
Shear fixer able to do grinding and setting
Several automatic loom fixers
Second hands and fixers all departments
Thread dresser tender

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St. Boston, Mass.

Over 45 years Confidential Employment Service for Textile Mills

WANTED

SLASHER OPERATOR

A young man with practical experience operating cotton system slashing and familiar with warping to take charge of a new Sizing and Warping Department to become foreman in an eastern North Carolina organization. Only applicants with potential abilities to grow into a larger job will be considered.

P-951, Textile World
330 West 42nd St., New York 18, N. Y.

(Additional Position Vacant Ads on Opposite Page)

Reliable man wants position with Reliable Firm as Branch Depot Manager in High Point, N. C.

Information available.

PW-924, Textile World
330 West 42nd St., New York 18, N. Y.

Wool Raw Stock Dyer Available

22 Years Experience

Some piece dyeing, yarn dyeing, union dyeing rayon staple and waste dyeing experience.

PW-962, Textile World
520 North Michigan Ave., Chicago 11, Ill.

POSITIONS WANTED

(Continued from opposite page)

RIBBON EXPERT: Age 52, desires position as foreman, designer or inspector. 32 years experience in designing, dissecting, sample making on silk rayon and tinsel ribbons. Best references furnished. PW-978, Textile World, 330 W. 42nd St., New York 18, N. Y.

KNITTING MILL Superintendent available, highly competent mill manager with fine mechanical background, on circular knitting machines, Brintons, Supreme, Wildman Spring Needle, and Wildman Latch. Good manager of help. Can furnish references. PW-979, Textile World, 330 W. 42nd St., New York 18, N. Y.

YOUNG MAN with B.S. degree Chemical Engineering. No practical experience. Four years as meteorologist with Army AAF. Taking 2 year Textile course commencing September. Desires work in mill till that time with company which may be interested in above's services upon completion of course. Age 24, married. Address replies to PW-980, Textile World, 330 W. 42nd St., New York 18, N. Y.

FRENCH DESIGNER, leading-styles-maker in woolen and worsted fancies, by means of, in the States usual Mfg. processes, wants to settle in the States; willing prior to engagement, prove his qualifications. Reply to PW-981, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

TEXTILE MAN age 43, with supervisory ability. Experienced in the knitting of rayon and cotton fabrics. Capable of designing patterns on Scott & Williams, Wildman and Tompkins machines. PW-982, Textile World, 330 W. 42nd St., New York 18, N. Y.

ASSISTANT SUPERINTENDENT with Woolen-Worsted Mill. 19 years experience in weaving, scouring, dyeing. Able to design. Fully familiar with wool and waste blends. Good background of preparatory and finishing operations. 5 years textile school, age 40. Married. PW-983, Textile World, 330 W. 42nd St., New York 18, N. Y.

SELLING OPPORTUNITY OFFERED

WANTED SALESMAN—Calling on Carpet Industries to carry side line of Cotton Bands. Write Corde Twisting Machine Co., 97 Cortlandt St., No. Tarrytown, N. Y.

SELLING OPPORTUNITIES WANTED

MANUFACTURERS OF all kinds of Textiles interested to be represented by well established agency in South-Africa please write. RA-984, Textile World, 330 W. 42nd St., New York 18, N. Y.

RELIABLE MAN wants to represent an additional progressive firm in the Philadelphia Area. Can furnish the best of references. Send details to RA-985, Textile World, 330 W. 42nd St., New York 18, N. Y.

SALESMAN—TECHNICIAN

WANTED

Man with broad experience in both selling and technical "trouble shooting" to call on textile mills, also on paper industry, as representative of highly regarded, old established chemical firm. State full details.

SW-963, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

SALES ENGINEER

By established textile machinery company in Metropolitan area. Graduate engineer preferred but not necessary. Please give full qualifications and salary expected. Reply

SW-967, Textile World
330 West 42nd St., New York 18, N. Y.

KNITTING EXECUTIVE

WANTED

having as nearly as possible these qualifications:

Education: Textile engineering or its equivalent; not afraid of mathematics; courses in business administration desirable.

Experience: (a) Fairly wide acquaintance with various knitting machines and actual mechanical working knowledge of the circular types using rayon yarn in plain, run-resist, and fancy constructions.

(b) Good understanding of dyeing and finishing knitted rayon goods.

(c) Leadership ability in handling people; good organizer for quality and cost control, for production and maintenance efficiency.

To head up a large operation in circular knitting, dyeing and finishing of rayon, and to plan expansions in same and other knitting fields.

Please give complete details in first letter, including personal data, education, experience, minimum starting salary requirements, and photograph if possible.

P-966, Textile World
520 North Michigan Ave., Chicago 11, Ill.

An Opportunity in NORTHERN INDIA

WANTED a Technical or a Technical-cum-General Manager for one of the biggest Cotton Mills in Northern India. Wide experience of the working of cotton spinning, weaving and finishing in India and/or foreign countries essential. Salary no object for a really qualified and experienced person. Free furnished house in addition to remuneration. Apply with copies of testimonials and experience.

Box 44, Doremus & Company, *Advertising,* 120 Broadway, New York City.

Chemist or Chemical Engineer
with
Experience Spinning Synthetic Fibers

East Coast industrial research laboratory desires man with mill and/or research experience to do research and development. Salary commensurate with qualifications. Please give complete details of experience, education, and salary desired. Include recent snapshot.

P-926, Textile World
330 West 42nd St., New York 18, N. Y.

SPINNERS

Have steady supply of top available for commission spinning of 2/20's worsted yarn in 58's quality.

CWW-991, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED FOR SPECIAL WORK WITH PROSPECTS FOR RAPID ADVANCEMENT

SENIOR ENGINEER

Must have Extensive Spinning Mill Experience in Production, Maintenance and Spinning Machinery Design. Must be Graduate Mechanical Engineer. (Some Research Experience preferred). Salary $8,000 to $10,000. Apply only if above Qualifications Met, stating Particulars in First Letter.

P-954, Textile World
330 West 42nd St., New York 18, N. Y.

Att. Spinner Conv., Jobber & Agents of Knitted Fabrics

Reputable Knitting Mill desires contract knitting on Tompkins & Brinton machines Wool, Cotton Jersey, Fleece, Terry Cloth, Cut Presser Work etc.

CW-921, Textile World
330 West 42nd St., New York 18, N. Y.

OPPORTUNITIES IN SOUTH AMERICA

For

(1) Rayon textile assistant, experienced in handling unfinished viscose rayon yarn, including all processing operations from twisting to finished skeins.

(2) Mechanic, experienced, thoroughly conversant with rayon spool spinning machine.

Write **P-986,** Textile World,
330 West 42nd St., New York 18, N. Y.
stating experience, qualifications and salary desired.

PROFESSIONAL SERVICES

FABRIC DEVELOPMENT CO.

Consulting Technologists

Design of textiles for specified uses
Product improvement and standardization
Cloth analysis, layouts, and weaving drafts
Specifications for raw and finished materials
Surveys and reports

P. O. Box 326 Times Sq. Sta. New York 18, N. Y.

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Registered Patent Attorneys

Suite 452, 815-15th Street, N.W., Washington 5, D.C.
Patent and Trade-Mark Practice before U. S. Patent Office.
Validity and Infringement Investigations and Opinions.
Booklet and form "Evidence of Conception" forwarded upon request.

WANTED

Senior Mechanical Engineer

To Head Projects Division of our New York Office

Must be experienced in rayon plant design and rayon manufacture. Salary $10,000 or higher, depending on qualifications. Information received will be treated in strict confidence.

OSCAR KOHORN & CO., LTD.
501 Fifth Avenue New York City, N. Y.

OPPORTUNITY!

We are a reputable principal

READY to PAY YOU **CASH**

For quick purchase on
INDUSTRIAL PLANTS—MFG. DIVS. or UNITS
(assets or capital stock)

FOR IMMEDIATE ACTION IN THE STRICTEST CONFIDENCE

Address: Box No. 1222 147 W. 42 St., New York, 18
Personnel will be retained wherever possible.

SULPHONATED FATTY ALCOHOL

We offer all or any part of 7500 lbs. Sulphonated Fatty Alcohol Wetting Agent (Colgate Syntex #100) at 30% discount from regular price of 30¢ per lb.,

F. O. B. our platform. Somewhat caked by moisture but efficiency unimpaired. Packed 50 lbs. to barrel.

APPLETON LABORATORIES, INC.
3 Appleton St. Boston 16

FOR SALE

PRINT MACHINES & TENTER FRAMES

FOR IMMEDIATE DELIVERY

We own the following excellent equipment that can be offered for immediate delivery:

1—Rice-Barton & Fales, 11 color printing machine, 42" face, heavy duty, large screws.

1—Rice-Barton & Fales, 3 color, 60", heavy duty, large screws.

The above machines are complete with the exception of backrigging and motor.

1—Rice-Barton & Fales, 12 color machine, heavy frames, 42" cylinder (incomplete).

1—Textile Palmer Tenter unit, 60" wide, 30 ft. long, brass clips.

1—Textile, 70 ft. Tenter frame, 60" wide, swing type, stainless steel clips.

FS-968, Textile World
330 West 42nd St., New York 18, N. Y.

WILL TRADE

2—80 Spindle Prince Smith Cone Rovers 8" x 4" Bobbins for Cone Heavy Drawing 12" x 6". Reply to

WT-956, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

Circular Knitting Machines

Two New Brinton's Circular Knitting Machines 20" Cyl. 20 cut 48 feed, 1½ H.P. for Plain Jersey or Stripes.

FS-920, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

(Additional Wanted Ads on page 280)

WANTED
CONTACT WITH MILL

having 4x4, pick and pick looms, suitable for weaving LASTEX fabrics.

Can purchase share in mill or finance operations it suitable arrangements can be made for all or share of production.

References and banking connections on request

BO-952, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

3 Diederich Warpers (Sectional) $975 each, mill floor—equipped with metric counters and automatic length stoppage.

1 Vandamme Warper—$600. mill floor-equipped with metric counter and length stoppage—also stop motion.

1 brand-new Doubling/Measuring machine, working width 56"—variable speed drive—without measuring device.

St. Johns Textile Mills Ltd.
St. Jean, P. Q., Canada

WANTED

5,000 to 10,000 square feet
FACTORY SPACE

in vicinity of Mystic, Connecticut. Write giving details.

W-923, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED FOR EXPORT

INEXPENSIVE SHIRTS, UNDERSHIRTS, T-SHIRTS, LADIES STOCKINGS, SILK YARDAGE, COTTON YARDAGE, COTTON BLANKETS. WRITE TO

CALIFORNIA IMPORT CO.
116 New Montgomery St. San Francisco 6, Calif.

LOOMS FOR SALE

200 Draper K Automatic Looms—42" cloth—25 Harness Dobby Heads—4-Bank Stop Motion—Bartlett Let-off—2-Shift Pick Clocks—now running on rayon fabrics. Ready for prompt delivery.

YORK TRADING COMPANY, INC.
P. O. Box 341
Pawtucket, R. I.

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

SELL NOW! PRICES ARE HIGH!

Chemicals, Dyes, Gums, Oils, Waxes, Greases, Pigments, Residues, By-Products, Wastes

CHEMICAL SERVICE CORP.
84 Beaver St. New York 5

FOR SALE

1—4 roll 56 inch Friction Calender in good running condition, complete with 50 H.P. motor and variable speed control and 2 rewinding shafts built by Textile Finishing Machinery Co.

FS-987, Textile World
330 West 42nd St., New York 18, N. Y.

YARNS WANTED

Wanted to purchase surplus yarns of all types — cotton, rayon, acetate, nylon, silk, wool, spuns, and blends.

W-947, Textile World
330 West 42nd St., New York 18, N. Y.

Don't forget the

BOX NUMBER

When answering the classified advertisements in this magazine don't forget to put the box number on your envelope. It is our only means of identifying the advertisement you are answering.

C & K LOOMS

68" Crompton and Knowles Looms. S-1 Super Silk, 68" between swords. Intermediate Heads 20 harness 2 x 1 right hand. Frame 25 harness silk loomsides. Quantity. Excellent condition.

FS-964, Textile World
330 West 42nd St., New York 18, N. Y.

Out of his personal fortune, Abbott Lawrence Saved the city named after him

BEGINNING in 1840, one Daniel Saunders, of Andover, Massachusetts, secretly bought up land along the Merrimac River until he controlled the great water power hidden in the insignificant rapids. From "Saunders' Folly" eventually grew the town first called Merrimac, then Lawrence, Massachusetts, after Mr. Abbott Lawrence, who helped finance the undertaking. The great Pacific Mills sprang up – but in 1857 had to ask an extension of credit. Abbott Lawrence, knowing that ⅓ of the people of Lawrence depended for their living on the Mills, dug down into his pocket and personally contributed thousands of dollars that saved the enterprise.

MLC SERVING THE TEXTILE INDUSTRY MLC

3—Batchers or Rolling up machines, 60", 65", 70"
2—#100 Sturtevant Blowers, paddle type
2—C&M 2-cylinder Brushing machines, 62½" and 72"
3—Button Breakers, 2-48", 1-50"
1—48"x60" Bridesburg Card Set, 2 cylinders, wood
1—48"x48" Furbush & Gage Card Set, 3 cylinders, wood
2—54"x60" D.&F. Iron Cylinder Card Sets, 2 cyl. each.
1—100 spindle #25 Foster Doubler, with 5 HP motor
1—60" P&W Doubling, Boarding and Winding Machine
1—6-delivery H&B Drawing Frame
1—Set 20 H.W. Butterworth 108" Dry Cans, dryer, motor driven, with Reeves drive
1—Reeves Drive, Range 3-1, Size 6, Class G
1—72" Schofield Automatic Duster
1—54" x 54" Batch Type Waste Duster
1—5 Arm Smith Drum Skein Drying Machine
2—26" Tolhurst Extractors, belt driven
1—30" American Laundry Extractor
6—40" and 60" Tolhurst Extractors
1—45" Dobson & Barlow Cotton Feeder
5—40", 42" E&H Flat Folders with take-up stands
1—66" Folder (ceiling or machine)
1—100" C&M Flat Folder, motor driven with hydraulic lift and roll-up stand
1—Rodney Hunt M-32-string Fulling Mill
3—#7 Hunter 2-string Fulling Mills
1—48"x21" Smith & Furbush Garnett
1—49"x20" James Smith Garnett
15—40", 48", 60", 80" Card anid Napper Grinders
2—Peerless Belt Lacing Machines
1—Card Lacing Machine with ½ HP Ind. Motor
2—45½" C&K 4x1 non-automatic, motor driven Looms with silk rool take-up
120—45½" reed space Modified E Draper Looms with lacey tops, 3 bank stop motions, worm take-up, belt driven
1—48" C&K 4x4 box Loom, 25 harness, belt driven, friction clutch
49—54½" reed space C&K 4x1, 2x1, 1x1 Looms, 20 and 25 harness, belt driven
46—80" and 82" C&K 2x1 automatic Looms, 8 harness cam motions, motor driven
1—92" C&K 4x4 Box Looms, 25 harness, friction clutch drive
10—92" C&K, 4 x 1 Automatic Looms, 8 Harness, Cam Motion, Motor Driven.
1—44" C&M Measuring Machine, 60 yd. dial
1—64" P&W Measuring and Woolen Cloth Winder
1—60"x23" P&W 60 yd. Measuring Machine, sanded roll, belt driven
1—66"x24" P&W AWC Measuring and Folding Machine, 100 yd. counter and folder
1—12 Pole Smith Drum Skein Mercerizer
2—240 spindle D&F 2" gauge, 10 jack spool Drums
75—New Leland 1+ HP 3/60/220V Heavy Duty Motors
Also various size Rebuilt Motors
1—61" Woonsocket 2-cylinder Napper, 20 rolls to each cylinder, gear driven rolls
4—80" D&F 20 roll Single and Double Acting Nappers
1—30x30" Mezzera Wool Opener with grid and 25" feed apron, wire good
1—45" 2 roll Padder, rubber rolls
1—42" Olsham Fearnaught Picker
2—48" Parkhurst Burr Pickers with blower
2—48" C.D. Sargent Burr Pickers
1—54" Werner Single Color Printing Machine
6—52", 65½", 66" and 98" Voelker and Gessner Single and Double Bed Rotary Cloth Presses
4—50 spindle Carpenter 54" Skein Reels, non-adjustable
1—60" P&W Single Blade Smooth Woolen Shear
1—60" C&M Single Blade Plush Shear
1—60" and 66½" P&W Single Blade File Tooth Woolen Shears
11—65½" P&W 2-blade Shears, Model B
1—66 P&W 2-blade Shear, Model A
2—76" C&M Double Blade Shears
1—42" C&M Singer with hood
1—32½" D&F Jack Spool Winder
6—Smith and Furbush Spoolers, 44" drums, 48 ends, 44½" long spools with 10" head. Complete with spool stands.
1—100 spindle Whitin Spooler with Foster Tensions, McCall Guides
1—60" C&M Single Brush Tiger
4—80 spindle Hopedale band driven twisters 4½" ring, 5½" ga. Belt driven
1—Washing Tub Agitator with motor
5—100 spindle Foster Model 21A Tube Winders
2—60" P&W Winders with stencil attachment
1—100 Spindle Foster Model 12 Tube Winder
2—100 Spindle Foster Model 12 Cone Winder
2—92" D&F Pinless Type Warpers with beamers, Jack Spools, Creels, Reed Stands and Dressing Frames.

QUANTITY OF MULE BOBBINS AND VARIOUS SIZE TWISTED BOBBINS AND WOODEN SPOOLS.

MACHINERY LIQUIDATING COMPANY

OPA REGISTRATION NUMBER 789

EST. 1923

31-33 West 42nd Street MLC NEW YORK 18, N. Y.

DOMESTIC TELEPHONE PEnnsylvania 6-8014 EXPORT

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

50 C & K LOOMS

4 x 1 GEM HEAD—56" REED SPACE

SET UP FOR MOTOR DRIVE—NO MOTORS—1927 MODEL

SILK & RAYON WINDERS

3—Atwood Double Deck Winders 140 Spindles Each

3—Sipp Double Deck Winders 120 Spindles Each

4—Eastwood Double Deck Winders, 256 Spindles Each

10 TRICOT KNITTING MACHINES

8 Whitins 168" 4 less than 1 year old. Others 4 years old.

2 German 168" Machines 10 years old

STEEL STRAPPING

• ACME • SIGNODE

⅜" and ⅝"—100 Tons—New Original Rolls

SINGER SEWING MACHINES

FOR HEAVY FABRICS

3—#144 WSV38 1—#144 WSV36

60,000LS YARN

ORIGINAL CASE

225-2-5 Fiberglass

500 Cake Holders

1—2 Beam Toledo Dial Package Scale weights up to 125 lbs.

3000 Harness Frames—40" to 54".

1—3 Drum Dresser Spooler.

150 Tricot Beams, 13" x 13½"

12 Bahnson Humidifiers—3 phase motors

20 2 Shift Pick Counters.

MILLIONS OF • COTTON • RAYON • SILK SPOOLS

400,000 Dec. Metal, 3" Head—3⅜" Trav.
500,000 Fibre, 2½" Head—3½" Trav.
30,000 Fibre, 2⅜" Head—5" Trav.
25,000 Fibre, 2⅜" Head—4" Trav.
55,000 Metal, 3" Head—5" Trav.
25,000 Fibre, 5B, 2⅜" Head—4" Trav.
30,000 Fibre, 2⅜" Head—3⅜" Trav.
100,000 Fibre, 2½" Head—3⅜" Trav.
20,000 Fibre, 2¾" Head—3⅜" Trav.
10,000 Fibre, 3⅜" Head—4¾" Trav.
12,000 Fibre, 2¾" Head — 3⅞" Trav.
7,000 Fibre, 5B, 2¼" Head—4" Trav.
25,000 Fibre, frictionless, 2½" Head, 3½" Trav.
5,000 Bakelite, 2½" Head—5¼" Trav.
10,000 Wood, 3½" Head—6" Trav.
Many others too numerous to list.

Replacement parts for #50 and #90 Universal Winders, Atwood Spinners and Winders.

1500 bobbin cases—capacity for 9 large bobbins, maplewood construction—self stacking.

3,000,000 bakelite 3½" tubes and 1600 self stacking metal racks for these tubes.

4—Scranton Motorized 100 spindle Doubler Twisters.

2—Skein Bundling Presses.

3000 D. F. D. Cleaners.

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Wm. Rabinowitz & Sons

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214-222 HAMILTON STREET • ALLENTOWN, PA.

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FOR SALE

1—36" Schofield Lumper
1—30" Schofield Hair Picker
1—E. & H. 66" yard folding machine
1—L. & G. 30 sp. Cop Winder, Skeins to Cops
6—Globe Ball Warpers
1—Pr. 72" Rubber Covered Squeeze Rolls
1—P. & W. 66" Double Shear, Mod. "B"
1—Hunter Rope Soaper, single strand
2—Spencer Automatic Oilers, 48"
1—Sargent 48" Burr-Picker with feeder
1—Voelker 66" Press with extra cylinder & jackets
1—Gessner 66" "Jumbo" Press
1—P&W Plush Shear 66"
2—S. F. Yarn Sizers & Dry Cans
1—Simpson 45" Batcher
1—84" D.A. Woonsocket Napper 20 rolls, Motor Drive
1—54"-4 Blade Hermas Silk Shear
1—14 String Rodney Hunt Slack Washer
10—92" C.&K. 30 harness, 4x4 Box Looms

UNIVERSAL WINDERS

#50's and #90's rebuilt to order.

Specializing in Woolen Yarn Machinery

FRANK W. WHEELER Co.

1837 East Ruan St., Phila., Pa.

Phone: Jefferson 5-4771

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NEW EQUIPMENT

We are exclusive New York and New England representatives for the

SOMERSET ENGINEERING CORP. (SECO) Manufacturers of NEW EIGHT COLOR PRINT MACHINES—hydraulic nips VAT AGERS—ACID AGERS—DYE JIGS—SLACK WASHERS —COTTAGE STEAMERS — HEATED PRINTING TABLES

Write for specifications. Our representative will call and go over details with you.

Excellent deliveries at present

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TEXTILE MACHINERY OF ALL TYPES

APPRAISALS WOOLEN—WORSTED—COTTON LIQUIDATIONS

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GAINES TEXTILE MACHINERY CO.

Dealers In Rebuit and Guaranteed Yarn Winding and Spinning Machinery

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HARRY STEPHENSON

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TEXTILE MACHINERY AND APLLIANCES

New and Used

River Works, Andover, Mass.

1947-PEACE and PROSPERITY

WE PLEDGE CONTINUED SERVICE

HELPING INDUSTRY SAVE TIME AND MONEY

"Consolidated"

R. B. & F. Six Color print machine, 42". Complete with dryer, copper rollers, Mandrels, Motors & drives.

EXTRACTORS

4—K & G & Burkhardt 60" Extractors, rubber baskets.
1—Hercules 48" Extractor, copper basket.
3—26" & 30" Hercules Extractors.
1—V.V. 42" self balancing Extractor with motor.
3—Holhurst 48" & 36" Open Top Extractors.
1—Gessner 78" Vacuum Extractor.

DYEING MACHINES

3—K. & W. Obermaier & Buhlman skein dyers.
1—Sargent 3-bowl scouring train, 48" bowls.
1—Obermaier Package Dyer, complete with pump, etc.
1—Vacuum Raw Stock Dyer.
3—Bleaching Kiers.
1—Smith-Drum 22-arm skein dyeing machine.

DRYERS

1—National Loop Dryer, 6 fans, 86" wide.
1—Heathcote Pine Tenter Dryer.
2—3-Apron Conveyor Dryers.
2—P & S Raw Stock Dryer.
1—Van Vlaanderen Net Dryer.
1—P & S Multi-pass Conveyor Dryer.
1—P & S 2-section skein dryer.
1—P & S 500# Skein Dryer.

NAPPERS

2—D & F Single Acting Nappers, 60" & 84".
2—Woonsocket 86" 20-roll S.A.B.B. Nappers.
1—Woonsocket 86" 24-roll D.A.B.B. Nappers.

TENTER FRAME

1—Butterworth 90' Tenter Frame, 50".

PALMERS-PALMER QUETCH UNITS

1—Textile 66" Low type Palmer.
1—V.V. 88" Palmer Quetch Unit.
1—General Machine Co. Palmerette.

COATING MACHINES

1—Butterworth coating machine with drying cylinders.
1—Textile 60" Coating Unit with geared pump.
2—Knife Coating machines, 64".

BEAMERS-BATCHERS—TUBERS

5—Textile 50", 60", 66" & 72".
4—2-roll B.B. Batchers, 50"-72".
4—Tubing & Measuring Machines—50"-72".

PREPARATORY MACHINES

4—Shoddy or Rag Pickers.
1—Terrill Bobbin Stripper.
1—Curtis & Marble 48" Fearnaught Pickers.
1—Whitin automatic Cleaner.
2—Smith & Furbush Shredders.
1—Schofield 42" Rag Picker.

WASHERS

1—Rodney Hunt Rope Washer.
1—Rag Washer.
1—Rodney-Hunt Slack Washer.
1—American 2-comp. Cascade type Washer.

CALENDERS

1—Perkins 3-roll 50" 100-ton Hydraulic Calender
1—Grand Rapids Calender, 46½".
1—Butt, 3-roll 55" Calender.
1—Textile Fin. Co. 150" 2-roll Calender.
1—C. & M. 2-roll 60" Calender.
1—Knit Goods Calender.
1—Butterworth 4-roll Calender.
1—2-roll 150" Calender.

Complete Upholstery & Drapery Fabric Plant.
Complete Carpet Plant.
Complete Sewing Plant.

SHEARS

3—P & W 2 Blade Shears 66½".
1—P & W Single Blade Shear 60".
1—Plush Shear.

DYE BECKS—DYE JIGGS

3—V. V. 4' stainless steel lined dye becks, complete with motors and drives. New all S.S. Dye Becks, 4'20" long.
4—60" S.S. Dye Jiggs.

1—3-Roll Heavy Duty Calender, 100".

KNITTING MACHINES

4—Dubied & C & F machines.
5—Tompkins circular knitting machines; 26" dia., 18 gauge.
10—Chenille machines.

"AMERICA'S BEST BUYERS" WANT YOUR IDLE EQUIPMENT

SINGLE ITEMS TO COMPLETE PLANTS

SEND YOUR LIST NOW

Complete Skein dyeing plant for Worsted Yarns.

WEAVING MACHINES

55—C & K Jacquard Looms, 48".
5—C & K Carpet Looms.
10—Draper "D" 72" Automatic Looms.
10—S & L Narrow Fabric Looms.
1—C & K 18' Ribbon Loom and Winder.
22—C & K Looms, 98", 110", 114", 180".

GARNETTS

4—P & S & Hunter 4-cylinder Garnetts.
1—Hunter 2-cylinder Garnett.

PRINT MACHINES

2—Van Vlaanderen Ribbon Printing Machines.
1—Waldron 4-color Printer.

CARDING MACHINES

14—H & B & Lowell 40" Cards with 12" coils.
2—4-cylinder Woolen Cards, 48" x 48".
3—3-cylinder Woolen Cards, 48" x 48".

SPINNING & WINDING MACHINES

1—Davis & Furber Compressor Spooler.
12—#90 Universal Winders, for silk operations.
1—Sipp 80 spindle Winder.
25—Sipp-Eastwood Winders, m.d.
3—Atwood 5-B Spinners.

BUTTON BREAKERS

2—V.V. 60" & 50" Button Breakers.

TWISTERS

5—Brownell Twisters, 48 to 96 spindles.
1—D & F 60 spindle Twister, 3¾" gau.
3—Atwood Double Deck Upstroke Twisters.
4—Atwood 5-B Spinners.

MISCELLANEOUS

5—Chinchilla machines.
1—Sample Dye Vat.
1—72" Flopper.
1—Havet Patch Ager.

THE KEY TO SAVING TIME AND MONEY

CONSOLIDATED PRODUCTS COMPANY, INC.

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33-41 BERGEN ST. Tel. ARmory 4-6540

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BOOST PRODUCTION — PENN IF IT'S SPOOLS — CUT YOUR COSTS

FOR PROMPT DELIVERY

2—CALHOUN MOTORIZED SKEIN SOAKING & DYE MACHINES: with special emulsion heaters.

10,000 Bakelite Take Up Shafts—3¼" Traverse — 4" Bakelite Heads—Hollow Tube Gudgeons. Good Condition

4—STAINLESS STEEL SOAKING BASKETS. Perforated, width 23", length 32" and depth 32".

SPECIAL LOTS

40,000 Fibre Head Spools 4⅜ Traverse — 4" Heads, Thick Fibre — Like New. Good for Nylon or any yarn.

20,000 8½" 3 ring worsted wool bobbins.
50,000 8" 3 ring worsted wool bobbins.

5,400 Latest Type Large Package Take Up Shafts —Bakelite Heads—Hollow Tube Gugeons — 4¼" Traverse, 5" Bakelite Heads. Like new.

1—SQUEEZING MACHINE with a rolling off console, screwed in for bowls of 1795 m/m from ring to ring with pins 23 m/m, the width of the machine being 64", bottom roller of copper; top roller being rubber covered, hydraulic pressure and direct drive. 3 H.P. motor, including starting equip't and tub.

2500 Large Package, Fibre Head, Warp Rolls—9½" Traverse—6" Head. Like New

2—MODEL 101 FOSTER CONE WINDERS. Each machine 100 spindles, 6" trav., equipped with slub catchers and motorized with two 2 h.p. motors per machine.
2—Universal Cone Winders, Motorized—Model 60-GF—96 Spindles each.

Always interested in good used textile machinery—spools—bobbins—beams, etc. What have you to offer

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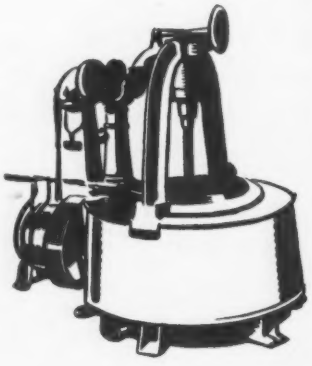
These Extractors are thoroughly rebuilt for long, trouble-free service.

Carried in Pawtucket Stock.



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OPENING, PICKING & CARDING
1—S-L #4 Bale Breaker
8—S-L #F-5—38" Hopper Feeders
1—Centrif-Air Machine
3—1945 WHITIN RETURN-AIR CONDENSERS.
1—S-L Sliver Lap Machine, 1934, 9" lap
64—Deliveries H. & B. Drawing, 10" coilers, with 1,000—10" roving cans

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14—WHITING LONG DRAFT Band Drive Spinning Frames, 4" gauge, 2-½" ring. Available in June.
3—S-L 100 Spindle Tape Drive Twisters, 7" gauge, 5-½" ring
4—Draper Band Drive Twisters, 96 spindles each, 5-½" gauge, 4-½" ring
4—H. & B. American Band Drive Twisters, 4" gauge, 3" ring, 176 spindles each.

DYEING & DRYING
1—Chattanooga Raw Stock Dyeing Machine, 1000 lb. capacity.
1—P. & S. TWO UNIT RAW STOCK DRYER.

ROPE MACHINERY
1—H. & D. 2 Flyer 8 x 10 Layer.
1—H. & D. 2 Flyer 5 x 10 Former
3—H. & D. 2 Flyer 8 x 10 Formers.
1—H. & D. 2 Flyer 12 x 14 Former

MISCELLANEOUS
S-L Lattice Conveyors; Lumnus Gyrators; Kitson Condensers; Sturtevant Fans; Beam & Ball Warpers; Wood & Fibre Head Spools; Hygrolite Yarn Conditioners; Foster #30 Winders; Boyce & Barber-Colman Hand Knotters; Scott Testers.

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COTTON SPINNING MILL

6,000 Spindles

MAY BE INSPECTED IN OPERATION

EXCELLENT FINISHING EQUIPMENT

1—Winsor & Jerauld TENTER FRAME, 40'.

1—Set horizontal DRY CANS, 23 Copper Cans to set, 105" wide.

1—Set Vertical DRY CANS, 40 Copper Cans to set, 105" wide.

1—Butterworth 50" DYE JIGG, Stainless Steel, with motor.

1—Van Vlaanderen 54" QUETSCH, 2 roll, Ball Bearing, Rubber Rolls, with motor.

1—Hennekin Tuber, 50", 1 rubber covered roll, ½ HP Motor.

2—Elliot & Hall 52" FLAT FOLDERS.

4—DYE JIGGS, 54".

1—50" TUBING & MEASURING MACHINE.

1—Textile 2 Roll Padding Machine, 45" width, top roll rubber, bottom roll brass.

1—Set James Hunter SQUEEZE ROLLS, 17" width, top roll rubber, bottom roll brass.

4—Saturating TANKS, James Hunter Machinery Co. rubber lined, 60" deep, 52" long, 42" wide, equipped with rubber covered bottom rolls.

1—Perkins 50"x24" CALENDAR, 3 rolls, circulating pump, 50 HP Motor.

1—National LOOP DRYER, 32' long, 13' high, 86" wide, Motor and variable speed drive.

1—60" Van Vlaanderen TUBER.

2—50" Van Vlaanderen TUBERS.

ENGRAVING EQUIPMENT

7—John Hope 50" Pantograph Machines.

10—John Hope 48" Pantograph Machines.

1—John Hope 45" Pantograph Machine.

1—Parks & Wolson 60" Shearing Machine.

8—Universal #50 Winders, with motors.

90—Whitin Spinning Frames, 3¼" gauge, 228 spindles, band drive, belt drive.

36—F & J Spinning Frames, 2" rings, 256 spindles, tape drive, 1916 model.

1—H & B Single Process Picker, 41" wide with new Kitson Hopper.

Textile Machinery Company 3 Roll, 4 Compartment, OPEN SOAPER, rubber and brass squeeze rolls.

MIXING KETTLES

1 set Textile Finishing Company Mixing Kettles, five kettles to set, 100 to 200 gallon capacity with double agitators.

Always Available

Looms

Knitting Machines

Spinning Equipment

Pebble Mills

Kettles, etc.

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Republic Textile

EQUIPMENT COMPANY

40 WORTH STREET NEW YORK CITY

Purchase and Sale of Used Machinery

REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

FOR SALE

ITEM B-1

1 P & W 4 CYLINDER SHEAR

66" Wide with Turning Device for Shearing Back & Front

ITEMS N98 & N99

2 WOOD TUBE FOSTER WINDERS

Model 101—100 Spin.—6" Traverse 8" Dia. Package. Creel supply in spin. or twist bobbin. Each equipped with 2—3 HP, 550 V. motor drive V belt, each motor taking care of 50 spin. per side.

ITEMS 998E & 999E

2 WHITIN QUILLING MACHINES

304 Spindle—3½" Gauge 10½" Traverse—Model "J"

ITEMS 1244-1245

2 CAVAGNARO EMBOSSING MACHINES

Large Heavy Type 3 Roll Machine—But No Embossing Rolls Included—Take 60" Goods

ITEM 12208

CAN DRYER

29 Tinned Steel Cans 144" Face x 24" Dia. Butterworth—3 Section Vertical

ITEM 9866

BOIL OUT MACHINES

Includes Pumps & Foxboro Temp. Clock—Also Roll Up Machine—72"

ITEM 9755

DEWING MACHINE

72"

ITEM 9841

WHITIN TAPE-CONDENSER — NEW —COTTON

Model "C"—Serial 425000—Series—40" Width

ITEM 9945

WOODEN CREEL

85½" High—108" Long—7" Spindle—Centers for 220 Ends—3¼" Spindle—Centers for 440 Ends—Takes Paper Tubes

ITEM 10190 R

1—3 CYLINDER C. & A. TIGER

All Belt Drive from 5 H.P. Motor—66" wide

ITEM 9838

1 SINGLE DRUM JACK SPOOLER—48 END

Or Compressor made by Worcester Warp Compressing Machine Co.—48" wide with Jack Spool Stand —5 digit Veeder Root yardage counter

ITEM 12149

STRAIGHT TYPE CREEL—NEW

McBride—300 Ends—Suitable for 4" x 8" Roving Bobbins—Equipped with Brake & Elec. Drop Motion

ITEM 6781

GESSNER STEAM PRESS

Jumbo Type—66" Wide
Item B-DH 13-14-15

3 PIECE DYE TUBS

Wooden—Rodney Hunt Type "O"
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Equipped with Both Reel & Spreaders

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AGER, Tower, New
BEAMER, 60" Van Vlaanderen
BEAMER, 60" with steaming drum
BLOWER, New, Squirrel cage type
BLOWERS, R.C. 8x5 3/5" 350 Cu. Ft. per min.
BUTTON BREAKER, VV 50"
BELT, leather 3 ply 28"x½"x70" long
CALENDER, 4 roll 50" Hydraulic
CALENDER, 3 roll 70" face
DECATER, Gessner, full 72"
DECATER, Semi, Van Vlaanderen
DRY CANS, set of 16, 72"x23" dia. horizontal
DRY CANS, set of 19, 50"x23" dia. vertical
DRYER, P & S Airlay
DRYER, P & S Loop
DRYER, Pin, Kenyon 5 tier
DRYER, Single & Double Truck
DYE BECKS, Stainless steel 4' to 20' NEW
DYE TUBS, 6' Wood complete motorized
DYEING MACHINES, Smith Drum Paddle type
DYEING MACHINES, Smith Drum Pocket type
DYEING MACHINE, Smith Drum 60 Arm
DYEING MACHINE, Rochester Rotary 30"x20". 3 pocket 20 lb. capacity
EMBOSSER, 54" K. & G.
EXTRACTORS, Beam 50" & 60" BB
EXTRACTORS, Open top Tolhurst 40"
EXTRACTOR, K & G, 48", rubber lined basket
FANS, Exhaust 3 blade propeller 30", 36", 48"
FLAT FOLDERS, Elliott & Hall adjustable
HOISTS, Budgit 1 ton capacity
INFRA RED units complete with blowers
INSPECTION TABLES, 42"
JIGGS, monel lined 60", 50" stainless steeel
KETTLE, jacketed, tilting 70 gal. cap.
LOOMS, Draper Model X 30", 40", 55"
LOOMS, C&K Heavy Duck Looms 76"
MOTORS, ¾ to 5 HP AC/DC220 volt
PAD, 3 roll Hydraulic
PAD, 2 roll 50"
PALMER 62"
PRINT MACHINE, 10" sample or ribbon
PRINT MACHINE, 6 color 60"
PUMP, Worthington Vacuum, 18x9 complete with 25 HP motor
QUETCH, 2 roll BB 50" & 60" ball bearings
SCUTCHER, NEW
SHEAR, Hermas, 4 knife 70" wide
SHELLS, Wooden 40"-42"-44"-48"
STEAMER, 60" long 54" dia. Cottage
TENTER FRAME, Pin W & J 30'x220 wide
TENTER FRAME, Morrison 30'x60"
TUBERS, Patereson variable speed motors
TUBER, VV with doubling attachment
WARP COMPRESSOR CREEL
WASHER, open 4 compartment 60" wide
WASHERS, Slop, New Stainless steel
WASHER, GL Rope type steel & wood
WOOL WASHERS, J. Hunter 6'

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1—54" PATERSON TUBER-VAR. SPEED MOTOR (NEW)
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2—36½" F-2 Kitson Hoppers. Rebuilt.
1—34½" Kitson Hopper Motor drive with motor. Rebuilt.
1—Vertical cloth brusher serial No. BR-1784.
1—101 Foster Winder 80 spindle, single motor drive.
1—750' Gal. Lea Courtney Fire-pump.
12,000—Long blade roller bearing spindles complete.
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50—Draper Automatic Looms for 48" goods, Roper let-off and worm take-up, Belt Drive

10—Crompton and Knowles 4 x 4 48" Jacquard Looms, individually motor driven

20—Crompton and Knowles 2 x 2 48" Jacquard Looms, individually motor driven

50—Crompton and Knowles 600 hook double lift Jacquard machines

52—Crompton and Knowles motor driven Looms 4 x 1, equipped with dobbies, Warp stop motion, pick clocks, temples, beams, etc., 51½" Reedspace

74—2 x 1 same as above all for 48" cloth space

#90 Universal quillers or coppers, with or without bunch builders belt driven or motor driven

Sipp or Eastwood warpers and creels, 83" and 72"

3—Atwood 5Bs Double twisters, motorized, 100 spindles, 6 End

20—Crompton and Knowles Automatic Looms 4 x 1 with 20 harness dobbies to weave 40" goods

8—Ribbon looms with dobbies. 15'6" with double set of battens, one set for making Boucle fringe, the other set of battens for regular ribbon work

60—Draper Automatic Looms for 60" goods, equipped with Roper let-off and ratchet take-ups, Belt Drive

28—C and K 4 x 1 Worsted Box Looms Warp Stop Motions, Feeler Motion, 25 Harness Dobby, Motor Driven with Motor and Flanged Beam.

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1—Type CS Induction Motor, Frame 874-D, 200 HP, 3 Phase, 60 Cycle, 550 Volt, 880 RPM, for use as an Induction Generator and to operate as such at 920 RPM. 1 set of Rails

1—Van Vlaanderen Button Breaker, 50" Brass Rolls. Ball Bearings

1—"HERCULES" Centrifugal Hydro Extractor, #11613, Type B, Size 48", 690 RPM, Maximum Allowance of Wet Goods in lbs. 900

1—New Worthington #3-L-1, Single Stage, Horizontally Split, Double Suction, Ball Bearing Volute Pump, to delivery 300 G.P.M. against a total Dynamic Head of 123 ft., handling 180° F, Water of a specific gravity of .97, operating 2900 RPM at 70% efficiency, requiring 13 HP with flexible coupling, driven by: one type BT Witon Steam Turbine to delivery 15 HP., at 2900 RPM, with 140# Gauge steam pressure, 3% moisture, exhausting against 10# gauge back pressure, Turbine suitable for operation with 225# gauge steam pressure

1—20" American Laundry Basket Extractor Complete with 1.9 HP Motor 1800 RPM

1—50" Five bowl calender complete with three husk rolls and two steel cylinders

4—50" Schreiner Calenders with cotton and wool bowl and steel cylinders

3—40" Schreiner Calenders with cotton and wool bowl and steel cylinders

1—lot consisting 15 various sized Cotton & Wool, Husk and Paper Rolls

2—Schreiner Engraving Machines—John Hope & Sons

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1—Butterworth hydraulic baling press—42 x 66

1—Copper kier or kettle 48 x 48

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1—Textile 7 bowl hydraulic calender, 80" face, brass and cotton bowls

1—Butterworth 7 bowl hydraulic calender, 80" face, chilled iron and cotton bowls

1—Perkins 6 bowl hydraulic calender, 42" face, 2 chilled iron and 4 wool paper bowls

1—Butterworth 6 bowl lever set, 80" face, 3 chilled iron and 3 cotton bowls

1—Butterworth 6 bowl lever set, 80" face, 3 brass and cotton bowls

5—Curtis Marble brushing and shearing machines—42"

3—Centrifugal extractors (Centrifuges) (Sharples)

1—Steel Economy Baling Press 72" x 42" table

1—Rodney Hunt 8' oval reel slack washer

1—12" x 24" Power Driven Duplex Pump (Deane)

1—10" x 12" Power Driven Duplex Pump (Deane) No. 41734

6—78" face, thirty-six roll, Woonsocket Napping Machines

1—78" face, Woonsocket Emery Nappers

2—78" face, twenty-two roll, Tarry Nappers

1—General Electric Transformer, Rating 333 k.v.a. Voltage 22000-600, Type H, Form D, Single Phase, Cycles 60.

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1—MacDonald 11 color 52" Printing Machine
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Draper TWISTER 216 sp. 2 inch rings.
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Set 49"x48" Woolen 3 cyl. Cards
J&B Woolen Mules 2" gauge
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Rotary Cutter for Tangled Fibres
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Set of 48 Rings for 48"x9" Doffers
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1—Generating outfit complete with panel for converting current from AC to DC.

Above unit of equipment purchased new in 1942 and in excellent condition.

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5000—Spinning Tubes, 7" o.a., 1" Whorl, Positive Drive.
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Large Lot of Worsted Caps, Tubes, & Spindles. Various sizes. Send for List.

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123,505—Flange Rings—1¼"; 1 5/16"; 1⅜"; 1½"; 1 9/16"; 1⅝"; 1 11/16"; 1¾"; 1⅞"; 2⅛"; 2 9/16".
1,540—Twister Rings 2¼".
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125—Galvanized Cans 40" H. x 24" x 13" W.
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1—BATCHER 50", 2 roll Unit
1—BRUSH 54", 2 roll unit with Blower
2—CALENDERS 25" width, 2 roll units
1—CALENDER 42½" width, 3 roll unit
2—CALENDERS, 80" width, 6 roll units
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1—FULL DECATUR 72" complete with pumps, etc.
2—DOUBLING & MEASURING Machines 62" and 66" cloth
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2—LOOP DRYERS 84" complete with housings, etc.
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2—DYEING MACHINES, SKEIN 22 stick units, reel type
2—DYEING MACHINES, 25 and 110 arm units, tank type
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3—DRY HEADS with 11 aluminum baskets, tubular knit goods
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3—FOLDERS 24" to 50" cloth, 1 and 1-¼ yd. units
4—JIGGS 50" Stainless Steel Lined boxes
14—HUMIDIFIERS Model G motor driven units
1—INSPECTION MACHINE 90" cloth equipped with clock
1—MANGLE 40" cloth, 2 roll unit, screw set
1—NAPPER, single acting 100" wide, 12 roll unit
1—NAPPER 72" Double Acting 20 roll unit
1—NAPPER 90" Double Acting 36 roll unit
2—NAPPERS 80" Knit Goods 20 roll units
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2—PRESSES, Rotary Steam units 66¼" & 80" Single & Double Bed Units
2—SEWING MACHINES, Rotary Foot Power
8—SHEARS 36" to 80", Single and Double Blade Units

COMPLETE UNIT

7 sets of D&F 3 cylinder WOOLEN CARDS. All iron construction 48" x 48", equipped with automatic Hopper Feeders, Intermediate Feeds, full complement of workers, strippers, doffers, fascies, etc. Rub Condensers. Fully clothed, recondition during 1946.

1—SHEAR 44" with 4 sets of cutting parts and brushes
1—SHEAR for CARPETS 12/4 single blade unit
1—SHEAR, PICKING 40", 3 cutters, brushes, hoods and batcher
1—SLITTER 42" with 87 knives, 5¼" dia.
1—WOOL SCOURING MACHINE, 3 bowl, 36" wide, for raw stock
1—SKEIN SCOURING Unit, 2 bowls 60" wide
1—WASHER Rope type 9 tanks with scutcher, vacuum extractor and folder. Squeeze sets on each tank.
2—BACKWASHERS 2 to 5 bowl units complete with Gill Boxes.

COMPLETE WORSTED SPINNING PLANT

Approx. 3000 Spindles
Details on request

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5—D&F 48" Single Cylinder Cards, roll top, lap feed, 12" coilers
1—SET 3 cylinder 60"x48" Woolen CARDS, Hopper Feeder, Breast, Intermediate Feed, Rub Condenser, 60 good ends
1—Single Cylinder CARD 45"x48" dia, with feeder, etc. Rub Condenser
1—CLEANER, Buckley Spirawhirl Model 42
2—COMBS, Worsted straight dabber type with coilers
1—CONDENSER TAPE used with 60" Card
3—CONDENSERS RUB used with 60" Cards
3—DOUBLERS 80 spindles each, equipped for up to 5 ends
1—DRESSING REEL for Loom Beams up to 78"
1—DUSTER 48" equipped with lumper
1—FEEDER 48" used to feed Raw Stock Dryer
1—FEEDER 40" used to feed Picker
1—FEEDER 52" used to feed Card
1—GARNETT 48" hand feed, 3 cylinder unit
1—HACKLING MACHINE for combing Line Fibres
2—INTERMEDIATES 9x4½, 72 spindles each
2—JACKSPOOLERS 48" with compression rolls 60 end bobbin stands
24—C. & K. 4x1 box LOOMS, 52", 25 harness, motor driven
32—C&K 4x1 Automatic Looms 54" Reed Space, 20 harness, belt driven
190—C&K 4x1 box LOOMS, 58", 25 harness dobbies
32—C&K 4x1 and 2x1 Box LOOMS, 50" cloth width, 25 harness, motor driven
11—C&K 4x1 automatic LOOMS, 92", 24 harness, arranged motor drive, no motors
8—C&K CARPET LOOMS, 12/4 stationary wire
11—C&K 76" 4x4 Box Woolen LOOMS, 24 harness, belt driven
6—C&K 82" 4x4 box Woolen LOOMS, 25 harness, belt driven
90—DRAPER E LOOMS 28" Reed Space, 2 harness, belt driven
12—DRAPER E LOOMS 50" Reed Space, 4 harness, motor driven
3—DRAPER D LOOMS 40" Cloth Width 8 harness, motor driven
380—DRAPER K LOOMS, 40", 25 harness, motor driven
700 DRAPER E LOOMS, 40", 2 harness, belt driven
200—DRAPER K LOOMS, 42" cloth width, 25 harness, belt driven
50—DRAPER L LOOMS, 90" cloth width, belt drive
4—PLATT MULES 455 spindles each, 2" gauge
6—MULES 280 and 360 spindle Units, 2" Gauge
2—MULES 360 spindle Units, 2⅛" Gauge
4—MULES Worsted, 650 spindles each, 1-7/10" Gauge
2—PICKERS, Rag, 20" x x30" dia. cylinders, feed aprons complete
1—PICKER, Burr, 48" with feed aprons and Hopper Feeds
1—REELER 50 spindle unit, adjustable swifts
4—SLUBBERS, 11x5½, 56 and 64 spindle units
30—SPEEDERS 8x3½, 160 spindle units, 8x3, 160 spindles, 7x3½, 176 spindle units
4—TWISTERS, Worsted, 200 spindles each, 3½" pitch, bell caps
1—TWISTER, Worsted, 200 spindle, 2¼" ring, 3½" gauge
1—TWISTER, 192 spindles, fancy attachments, 2" ring, 3" gauge
7—TWISTERS, 156 spindles each, 3½" ring, 5" gauge
10—WARPERS, Sipp-Eastwood, 85" with beam stands, magazine creels, motor driven
1—WARPER, D&F with leasing stand, reed stand, beamer for 78" loom beam
1—FOSTER #30 CONE WINDER, 100 spindles, motor driven
1—UNIVERSAL GF Cone WINDER, 40 spindles, motor driven
2—FOSTER #25 TUBE WINDERS, 80 spindles each, equipped to double up to 5 ends, motor driven

COMPLETE UNIT

7 Sets of D&F 3 cylinder Woolen Cards, 48"x48", wood faced cylinders, equipped with automatic Hopper Feeders, Breast, Intermediate Feeds, full complement of workers, strippers, doffers, fancies, etc., Rub Condenser, fully clothed, now operating.

7 D&F MULES from 2" gauge to 2-7/16" gauge, units from 260 spindles to 320 spindles, now operating.

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Latest type and design

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Dreis & Krump 8'x3/16"—Power Squaring—18" gap 220/3/60 4 sets blades —all steel—late model

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3'-11" Carlton Radial—1942
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4 spdl—Sipp—T&L
4 spdl—Allen—T&L
Natco D5 Multiple

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16"x54" Reed-Prentice—16 spd.—1942
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#2 W & S Turret
10" Logans—NEW—all models

MILLING MACHINES

#1 Kempsmith plain—CD
#1 B & S Vertical—CD
#4B Becker Vertical—CD
#2A Gervin Universal—CD
24" Cinc. Duplex

SHAPERS

20" Gemco—NEW
7" Logan—NEW

MISCELLANEOUS

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Gear Cutter—Pfauter #0—14" Univ.

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Repeaters, Lacers Card Cutters Jacquards of all description, also Plush Jacquards

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1—48" D&F Fearnaught Picker, located on West Coast

10—92" C&K Blanket Looms, 8-cam, 2x1 Box

1—Whitin Spinning Frame, 192 spindles, 3" diameter ring

A few sets of woolen cards

Can use a few 82" C&K Box Looms

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1—Davis & Furber 60 x 60 metal breaker cylinder, new 1919, complete with worker, stripper, fancy and doffer. Also one extra metal doffer 24" x 60".

2—Johnson & Bassett extra heavy pattern high speed mules. 2¼" gauge, 300 spindle, equipped with motor drive complete, new September 1936. Also approximately 6,000 13½" bobbins to fit above mules.

1—Davis & Furber, Model 44, compression spooler, electric stop motion and bobbin stands. Complete with motor and drive.

2—C & K 92" looms, 25 harness, R. H. drive, left hand head motion, worm take-up with motors. Equipped with Veeter-Root pick counter.

1—Windle 66" full width measuring and winding machine, equipped with motor drive complete, new 1934.

ROCK RIVER WOOLEN MILLS

Janesville, Wisconsin

Six Furbush woolen cards 48 x 48 wood cylinder three cylinder card with ball bearing 30" card breast, and 16" metallic breast and Harwood feed.
Two Fearnaugh pickers.
Two dusters John Pettie make one a two cylinder machine and one a single cylinder machine.

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1—48" Motor-Driven Hercules Extractor, Tinned Copper Basket, No Motor.
1—36" two blade C & M Shear.

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50—C&K 52" Box looms 2x1—16 Dobby individual motor driven ½ HP motor electric warp stop motions and temples fully equipped in excellent running order

50—C&K Automatic Box Looms 4x1 Bos Looms 56" reed space 25 Harness Dobby Mechanical Warp Stop Motions Individual motor driven ¾ HP motor

14—Draper 80" reed space Automatic loom 28 Battery Cam motion Modified D Individual motor driven ¾ HP motors Mechanical warp stop motions completely equipped

28—Draper 47" reed space Automatic looms Midget feelers and Stafford thread cutters Some dobby, some cam 28 Battery Electric warp stop Individual motor driven ½ HP motors Looms completely equipped in running order

20—Attwood 5B Twisters 2½ in. rings 100 spindle Individual motor driven

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FOR SALE

TENTER FRAMES

1—#S-104 Van Vlaanderen 40' x 60" straight away, ball bearing, worm gear drive Tenter Frame, top opening clips, stainless steel inserts with swivel stand, front drying cylinder, and take-up attached; 1 — #2 Reeves Drive, 5 H.P. motor; infra-ray drying system attached, 2 burners.

1—#BX-123 25' x 60" Van Vlaanderen Straight Away Tenter Frame with worm gear drive, tail top opening clips, stainless steel inserts, swivel stand, and front take-up, no heating arrangement, driven by 1—#1 Reeves Drive and 5 H.P. motor.

1—#M-1500 15' x 72" Textile Pin Tenter Frame, up and over type with pin clips, vari-speed drive, 5 H.P. motor.

1—#L-35 90' x 72" Winsor Jerold straight away Tenter Frame complete with #3 Reeves Drive, 1—15 H.P. 3 phase 220 volts motor, with or without housing, and #00 stainless steel plate clips.

1—#L-15 30' x 50" wide Winsor Jerold swing type Tenter Frame with #00 stainless steel plate clips, #1 Reeves Drive, 5 H.P. 3 phase 220 volts motor, 2 unit heaters, without housing.

CALENDERS

1—#BX-121 3-roll 48" Calender, bottom and top roll 16" dia. 48" face, center roll 8" dia. 50" face steam heated, lever pressure driven by 1—5 H.P. 3 phase 220 volts motor.

1—#A-25 Butterworth 3-roll Rubber Calender, bottom and top rubber covered rolls 18" dia. x 80" face, center roll heated steel roll 12" dia. x 80" face, top screw pressure, let-off, take-up, motor drive, 15 H.P. motor.

1—#M-25 Butterworth Hydraulic 2-roll Calender, bottom roll 22" dia. 45" face husk paper, top roll chilled heated steel roll 14" dia. x 45" face, accumulator, pump, silent chain drive from 25 H.P. motor, 50 ton pressure, let-off, take up, complete.

1—#B-2000 Ferris Hydraulic 2-roll Calender, bottom roll wool paper 16" dia. x 50" face, top roll chilled steel heated roll 14" dia. x 50" face, accumulator, pump, motor driven by 15 H.P. motor, 20 ton pressure.

1—#P-1250 3-roll Calender, bottom and top roll wool paper 16" dia. x 48" face, center roll chilled heated roll 10" dia. x 50" face, V-belt driven by 7½ H.P. motor.

1—#B-20001 Johnson Van Vlaanderen 3-roll 50" Calender, top and bottom rolls wool paper 16" dia. x 50" face, center roll heated chilled steel roll, V-belt drive by 7½ H.P. motor, lever pressure.

1—#G-2500 60" Van Vlaanderen 2-roll Embossing Calender, lever pressure, motor driven.

1—#S-5000 4-bowl Birmingham Rubber Calender 23" dia. 60" face, all steel chilled heated rolls, driven by herring bone gears.

1—#JA-9000 Perkins hundred ton hydraulic 3-roll Calender, bottom and top paper rolls, center chilled heated steel roll, driven by silent chain 50 H.P. motor, accumulator and 1—5 H.P. motor driven pump.

PADDERS

1—#BX-107 50" 3-roll Van Vlaanderen Print Padder, variable speed friction plate drive, fully complete with let-off, take-up, each roller spur gear driven.

DYE JIGGS

1—#BX-109 52" Stainless Steel Lined Dye Jigg with tilting expander, fully complete, individually driven with 1—1 H.P. motor attached.

1—#BX-110 42" Stainless Steel Lined Dye Jigg, fully complete with individual drive and 1—1 H.P. motor attached.

8—#BX-850 60" Van Vlaanderen Stainless Steel Jiggs with stainless steel rolls, stainless steel tilting expanders, individual motor drive with reduction box.

DRYERS

1—#S-111 National Revolving Stick Dryer, double line, 6 booster motor driven fans on both sides and 1—#1 Reeves, 1—3 H.P. motor, size 11' 6" high, 9' 6" wide, 30 ft. long. Now set-up and operating.

2—#J-112 & 113 Proctor & Schwartz Loop Dryers, stationary sticks, fans on side driven by Reeves and motor. Size is 8' 6" inside, 40' long, and 10' 6" high. Now set-up and operating.

QUETCHES

1—#BX-120 Watson 2-roll Quetch 60" 2 rubber covered rolls 10" dia. 60" face, variable sped Reeves pulley drive, 1—2 H.P. motor, take-up, and let-off.

1—#J-114 50" Van Vlaanderen 3-roll Quetch, bottom roll 6" dia. 50" face, top (2) rollers 6" dia. 50" face, friction plate drive with 1—2 H.P. motor attached, fully complete.

PRINTING MACHINES

1—#C-1000 Rice-Barton-Fales 60" 2-color Print Machine complete with back rigging, motor and Reeves drive.

1—#CO-1850 General Machine Co. Single Color Print Machine with extra drag roll, 54" wide, fully complete with vari-speed unit, mandrels, and gears.

WASHERS

1—#BX-106 Open width 60" all steel, 3 compartment Washer, 3 pairs rubber covered nip rolls over each compartment, 10 brass rollers in each compartment, driven by open type bevel gears on side, size of box 35" high 65" wide and 16' long.

MIXING KETTLES

1—#S108 150 gallon round, all steel Mixing Kettle with agitator and drive.

4—#E-2000 Jacketed Copper Kettles 45 gallons each, single agitator gear driven on one unit by motor 3 phase, 220 volts.

FOLDERS

1—#M-350 Elliot-Hall Flat Folder, complete, 1¼ yard folds, motor driven.

2—#S-250 & 250A 50" Sipp Eastwood Silk Flop Folding Machines motor driven.

DOUBLERS

1—#BX-116 Windle 66" Doubler complete with 1—1 H.P. motor.

1—#BX-117 Windle 50" Doubler complete with 1—1 H.P. motor.

2—#M-200 Park Woolson 60" Doubler & Reeling Machines, motor driven, complete.

PALMERS

1—#E-101 Butterworth Palmer 80" with 1—10ft. section pin frame up and down type—complete.

1—#E-100 Van Vlaanderen Palmer Quetch Unit 60".

1—#T-6500 Butterworth 80" Palmer, Quetch Unit, 60" dia. steel drum with 2-roll Quetch attached, Reeves drive #2, 10 H.P. motor, complete.

1—#EBX-124 Van Vlaanderen 60" Palmer, 1—25 ft. Tenter Frame and 1—2-roll Quetch—complete unit.

SQUEEZE ROLLERS

2 Pairs #BX-118 Rubber covered Squeeze Rollers with brackets and lever pressure arms.

6—#CS-119 Rubber covered squeeze rolls 12" to 14" dia., 66" and 72" face, 3" dia. shafts by 12" long.

BEAMERS

2—#BX-126 Beamers, ball bearing throughout and and 1—tension arrangement, 3 bars, motor driven by V-belts, 2 brass rolls, 1—1½ H.P. motor, 3 phase, 220 volts.

KNIT GOODS STEAMING CALENDARS

1—#BX-125 Double Width Knit Goods Steaming Calenders, stainless steel heated rolls, stainless steel pan, take-up spreader bar, variable speed drive with 1—1 H.P. motor.

DRY CANS

1—set #BX-129 consisting of 15 Stainless Steel Dry Cans, 23" dia., 72" face, complete welded, ball bearing throughout, gears, drive shafts, driven by 1—#1 Reeves Drive and 1—5 H.P. motor, Johnson Joints, and siphon pipes.

FUR MACHINERY

2—#BX-127 2-rubber roll Special Squeezer, lever and screw pressure, bottom roll 12" diameter 50" face, top roll 12" dia. 50" face, motor driven, variable sped unit, apron, stainless steel trough.

1—#BX-128 Fur Combing Machine complete, No motor.

TUBERS

3—#JA-500 Van Vlaanderen Straight Tubers, motor driven, high speed.

3—#JA-450A Motor driven Examining and Tubing Machines with tilting table.

FS-958, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

(Additional Wanted Advertising on page 268)

WANTED *For Export*

We need a number of narrow fabric looms for woven labels, ribbons, etc. Send complete details, will buy f.o.b. mill floor, for cash.

W-957, TEXTILE WORLD
330 WEST 42nd ST., NEW YORK 18, N. Y.

WANTED TO BUY

1—2 or 3 roll steam embossing calender for 60" cloth
1—2 or 3 roll steam plain calender for 60" cloth
1—2 or 3 roll steam plain calender for 38" cloth
1—cotton brushing machine for 60" cloth
1—cotton brushing machine for 38" cloth
1—ceiling cloth folder for 60" cloth
1—ceiling cloth folder for 38" cloth
1—Scott break tester for cloth
1—25 gallon change can mixer with explosion proof motor

CRAWFORD MANUFACTURING CO., INC.
P. O. Box 1496 Richmond 12, Va.

WANTED

SCOURING MACHINE

Box Type

For Wool Skeins

ANKOKAS DYEING & PROCESSING COMPANY
Phone 446 Mt. Holly, N. J.

WANTED

KNITTING MACHINES

10 & 11 Inch Knitting Machines, 10 or 11 Cut S & W or N & T, apply

W-949, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

DUBIED, SEIFERT & DONNER and GROSSER WIDENING MACHINES

6, 7 and 8 gauge.
Write to

W-730, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED TO BUY

FABRIC LOOMS

Two narrow fabric looms; Approximate length 14 to 16 feet. Motor driven preferred. Loom to be complete or frame only. Send complete details. Terms, cash.

LEEDON WEBBING CO.
353 Barton Street Pawtucket, R. I.

WANTED

WARP DRAWING-IN MACHINE

for Cotton Harness—Reply to

W-945, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

SASH CORD OR VENETIAN BLIND CORD POLISHING MACHINES AND BRAIDERS

W-953, Textile World
330 West 42nd St., New York 18, N. Y.

TENTERING FRAME WANTED

A pin tentering frame 60" to 70" in width for woolen knitted cloth with rack and gear winder.

THE MONARCH KNITTING CO.
LIMITED
Joseph Simpson Division
8 Berkeley Street Toronto

WANTED

2—60" stainless steel dye jiggs
1—60" tuber and measuring machine
1—60" beamer
1—Beam extractor
1—30' or 40' tender frame—60" width

W-955, Textile World
520 North Michigan Ave., Chicago 11, Ill.

WANTED

Uruguayan representatives are interested in all kinds of textile machinery—new and used. Write, giving all necessary details and information, to

SUREX Ltda.
Casilla de Correo 489
Montevideo, Uruguay

WANTED

40" and 48" Extractors—50"-60" Jiggs — 50"-60" Mangles — 40'-90' Tenter Frames — Quetches — 50"-60" Single Color Printing Machine.

W-959, Textile World
330 West 42nd St., New York 18, N. Y.

WANT TO BUY

USED MACHINERY

For Bradford Worsted Spinning one unit plant. State machinery available price and condition and earliest delivery.

E. S. GRAHAM
388 Talbot St., St Thomas, Ont.

WANTED BATTENS

For 15 ft. 8 in. Ribbon looms. About 70 spaces per batten.

W-961, Textile World
330 West 42nd St., New York 18, N. Y.

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IS

Opportunity Advertising

—to help you get what you want.
—to help you sell what you no longer need.

Take Advantage Of It

For Every Business Want

"THINK SEARCHLIGHT FIRST"

WANTED

1 double intersecting

GILLBOX

⅜" pitch, coarse fallers.

MERRIMAC MILLS COMPANY
Methuen, Mass.

LOOMS WANTED

Crompton and Knowles 82 or 92 in. woolen or worsted looms. Belt or motor drive.

Please State Complete Particulars.

W-965, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE – *Immediate Delivery*

1—Woonsocket Horizontal Cleaner, 1914 model.

6—Saco-Lowell type F-5 Feeders, 38½", complete with new Sargent Combs.

3—Kitson 45" Single Process Pickers, complete with Hopper Feeders.

16—40" Dobson & Barlow Cards, 15 of these Cards have 76 Flats, 2 workers and 2 clearers, ideal for waste.

44—40" Potter & Johnson Cards.

10—Frames Whitin Model "H" Drawing, 4 delivery to frame, 12" Coilers.

9—Woonsocket 12 x 6 Slubbers, 10" gauge, (7—80 spindles, 2—72 spindles).

3—H & B 10 x 5 Slubbers, 8" gauge, 72 spindles.

6—Woonsocket 9 x 4½ Slubbers, 2—114 spindles, 4—144 spindles).

20—H & B Spinning Frames, 2¾" gauge, 1⅞" rings, 224 spindles, 7" traverse, band drive.

16—Fales & Jencks Spinning Frames, 2½" gauge, 1⅜" Rings, 480 spindles, 7" traverse, band drive.

16—Frames Saco-Pettee Spinning, 3¼" gauge, 2¼" Rings, 228 spindles, band drive.

2—No. 90 Universal Winders, 20 spindles each, no bunch Builders.

1—Worcester Warp Compressor Beamer, for 64" Loom Beams, 24" Heads, with zig-zag expansion Comb, compression roll, 6 Beam Creel and Yardage Clock.

14—Stafford 30" H. D. Non-Automatic Duck Looms, 40" reed space, friction clutch drive.

25—Stafford 46" H. D. Non-Automatic Duck Looms, 55½" reed space, friction clutch drive.

4—Saco-Lowell 48" H. D. Non-Automatic Duck Looms, 55½" reed space, friction clutch drive.

6—Saco-Lowell 54" H. D. Non-Automatic Duck Looms, 61½" reed space, friction clutch drive.

6—Crompton & Knowles 100" H. D. Non-Automatic Duck Looms, 105¾" reed space, friction clutch drive.

6—Crompton & Knowles 100" H. D. Non-Automatic Duck Looms, 106" reed space, Motor drive (Motor not included).

1—Crompton & Knowles 120" H. D. Non-Automatic Duck Loom, Motor driven (Motor not included).

Phone 3-9831 — P. O. Box 1245

TROY

WHITEHEAD

MACHINERY CO., INC.

CHARLOTTE — NORTH CAROLINA

FOR SALE

100 Automatic
New Looms
Crompton & Knowles
S-6

56" between swords 2x1, 20 harness completely equipped, with new motors
1 horse power, 3 phase, 60 cycles.

FS-969, Textile World
330 West 42nd St.
New York 18, N. Y.

R. WOLFENDEN & SONS, INC.
have discontinued skein yarn dyeing

FOR SALE

(3) WOLFENDEN "Bubble Dye Machines"

STAINLESS STEEL

For scouring and dyeing ALL types of yarns, including Worsted, Blended Yarns, Rayons and Cotton. Also suitable for vat colors. Capacity of machines—100, 150, and 250 pounds. Machines are adjustable to any size skein.
Stainless steel sticks top and bottom. Sticks rotate alternately and simultaneously. Yarn cannot become snarled.
Solution is agitated by patented air method that produces unequaled loftiness in hand-knitted yarns.
Machines are stainless throughout. Recently installed at an approximate cost of $20,000. We are offering all three for $8,500 without electric hoists. With three electric hoists $1,500 extra.

Also, two-hundred (200) Wooden Pallets, size 36" x 36" x 5½", made of oak and maple, FOR SALE.

R. WOLFENDEN & SONS, INC.
Tel. Attleboro 38 — **Attleboro, Mass.**

BRINK METERS

100 Brink Meters for Universal #50 winders

Will sell cheap

FS-915, Textile World
520 North Michigan Ave., Chicago 11, Ill.

100 REBUILT

No. 50 Universal Winders

IN EXCELLENT CONDITION

FOR SALE

without motors

TEXTILE CONING CORPORATION
Lock Box #70 — WOONSOCKET, R. I.

FOR SALE

CIRCULAR LOOM

DeLaski-Royle ½" I. D. to 4¾" O. D.; Max. No. of Warps 288; 50 to 80 Lineal ft. per hr.

FS-948, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE:

Dubied and C & F hand machines

14 and 16" BEDS

Write to

FS-566, Textile World
330 West 42nd St., New York 18, N. Y.

Textiles need Texas ...and Texas needs Textiles

LOCATE YOUR NEW PLANT IN THE TEXAS COAST COUNTRY

Textiles need Texas! **Texas produces 20% of U. S. Cotton, 24% of U. S. Wool, 91% of U. S. mohair—and Texas' rapidly expanding chemical industry will soon be producing a healthy percentage of U. S. synthetics.**

Texas needs textiles! Texans want a balanced industry, and textiles are essential to round out the accelerating industrial development in the Texas Coast Country.

Texas offers textiles **the same advantages it offers every industry: raw resources, unexcelled rail, water and air transportation, native American working men and women, a mild climate, and natural gas—the economical, efficient, clean industrial fuel.**

Send for a survey of the Texas Coast Country for your company. You'll find it carefully engineered, detailed, individualized to your needs. Your inquiry will be kept confidential. Address Research Department, Houston Pipe Line Company, Houston, Texas.

HOUSTON PIPE LINE CO.
Subsidiary of Houston Oil Company of Texas
GEO. A. HILL, JR., President
Wholesalers of Natural GAS

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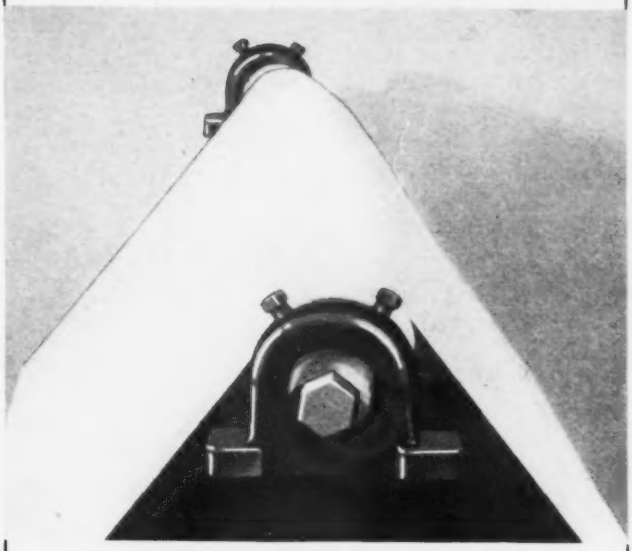
Mount Hope Free-Wheeling EXPANDER



All Widths Now Available

The free-wheeling idea of the Mount Hope Expander has proved so successful that we have now brought out a Heavy Duty type which can be used for all usual widths of cloth which are too wide or heavy for our Regular Duty type.

This expander has the same outside diameter of Neoprene sleeve as does the regular Free-Wheeling Expander, but has a 1½" axle instead of the 1⅛" axle now used. It can be furnished to accommodate medium or heavyweight fabrics up to 120" face, or lightweight fabrics, paper or film, of even greater face.

Other advantages of the Heavy Duty Expander, as well as the regular Free-Wheeling Expander, *if used properly*, are as follows:—

Because the warp is subjected to minimum tension less bow than usual is required, resulting in extra long life for the Neoprene surface of the expander.

Expanders may be set at any desired angle to the cloth to adjust the amount of widthwise stretch produced.

Ball bearings, grease packed, are securely mounted in steel spools to outlast many Neoprene sleeve coverings, and so designed that they cannot stick nor turn on the axle and cut it.

These expanders are suitable for all fabrics, including rayon marquisette and rayon and cotton tire cord, plastic film and paper.

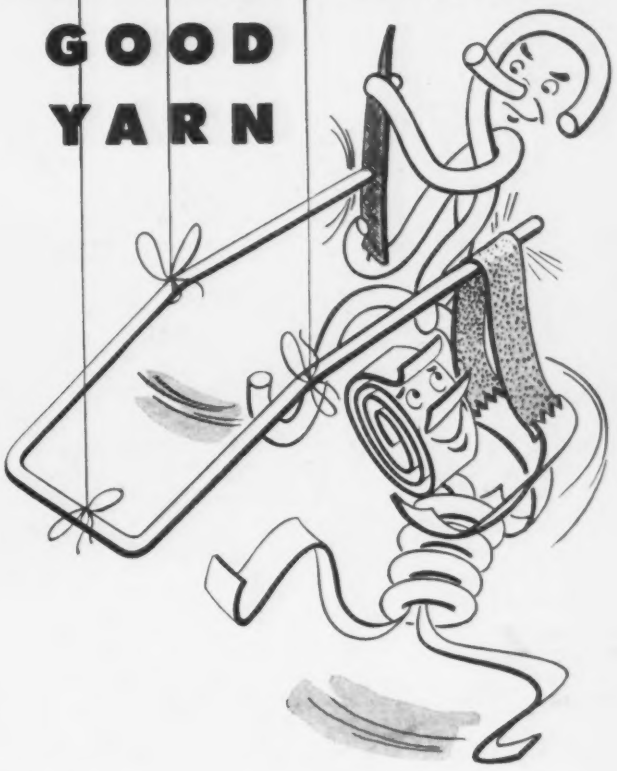
We will be glad to assist you, free of charge, with your cloth opening, guiding, or cross-stretch problems.

MOUNT HOPE MACHINERY CO.

42 Adams St., Taunton, Mass.

Representatives — John H. Andresen, Inc., 138 Grand St., Paterson, N. J.; Ingalls Engineering Co., 1214 Union Trust Bldg., Providence, R. I.; Slaughter Machinery Co., Charlotte 1, N. C.; Sidney Springer, 316 East Commercial Street, Los Angeles 12, California; W. J. Westaway Co., Ltd., Hamilton and Montreal 3, Canada.

The beginning of a GOOD YARN



● Carding is the beginning of good work—and bad. Good carding is a prerequisite to good yarn, and good card clothing is the essential element of good carding.

Well-ground and highly polished points that *stay* sharp and smooth for the longest possible time; sturdy foundations that have a minimum of stretch left in them, practically eliminating creepage and "buckling;" foundations that hold the points firmly and permanently—are imperative to good carding.

Wissco Card and Napper Clothing is superior from the standpoint of performance. Made of specially developed steel—precision set and precision ground on foundations that are sturdy and resilient, absorbing the major part of the strain on the wire, Wissco Clothing is being relied upon by a steadily growing number of boss carders. A test run on your own cards will prove our claims. Write for detailed information.

Wissco

CARD AND NAPPER CLOTHING

for wool, worsted, asbestos and specialties

A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL AND IRON CORPORATION

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District Offices — Boston, Buffalo, Chicago, Denver, New York.
The California Wire Cloth Corporation, Oakland 6, Calif.

Seaboard's Industrial Department stands ready to light your way toward the establishment of your manufacturing and distributing operations in the progressive Southeast.

It has facts and figures—just the kind of specific information you must have in order to select the location best suited to your own needs.

Many varied types of industry have been faced with expansion problems such as your own—and they have found the answers through Seaboard's comprehensive array of facts and special reports and surveys prepared by trained specialists of long experience.

Your inquiry will receive immediate attention and of course will be accorded strict confidence. Please address:

Dallas T. Daily, General Industrial Agent

Seaboard Air Line Railroad Company, Norfolk 10, Va.

SEABOARD
AIR LINE RAILROAD COMPANY

THROUGH THE HEART OF THE SOUTH

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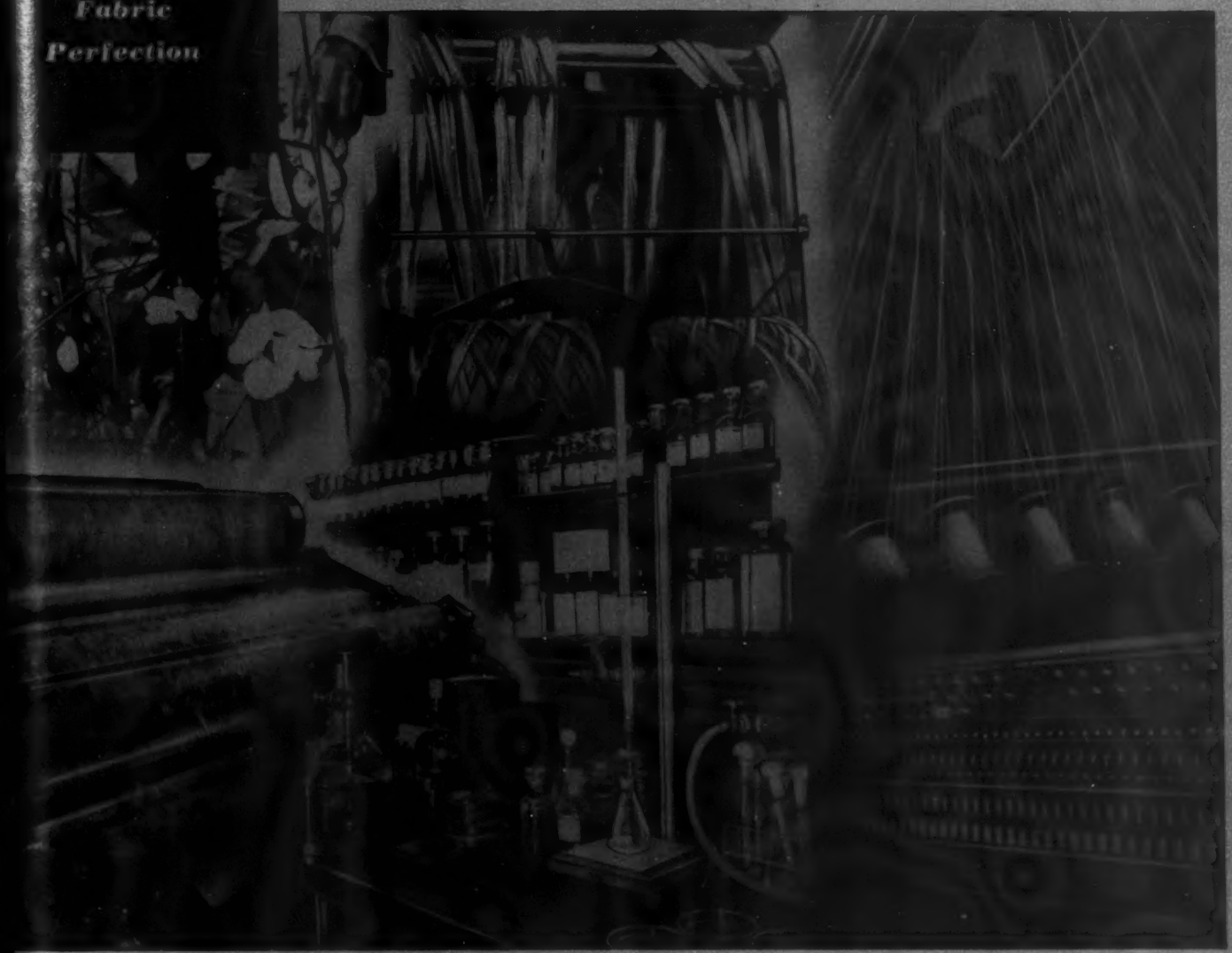

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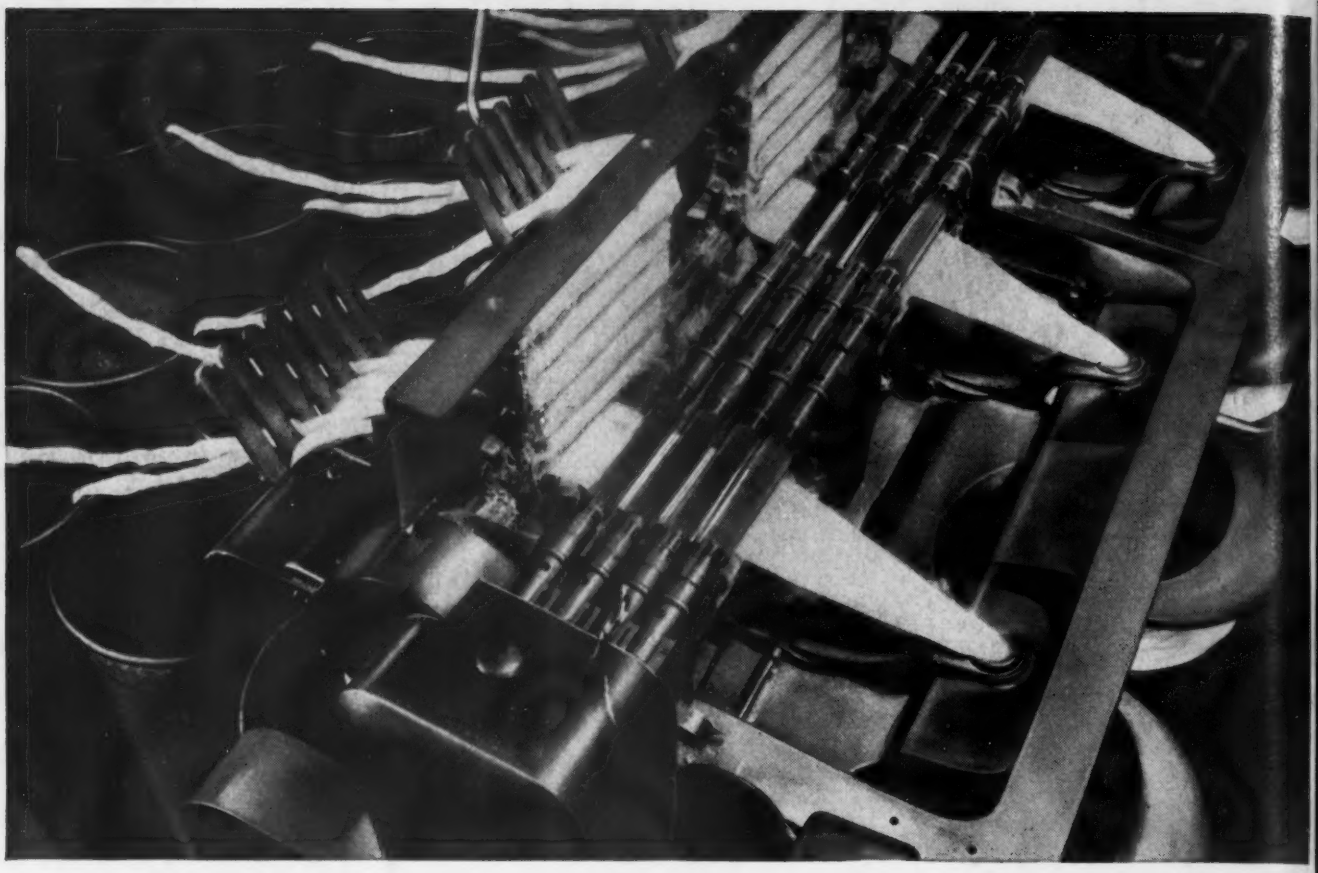

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